

The Analysts Journal

VOLUME 11 : NUMBER 1



FEBRUARY 1955

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...big job



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And the cable on his shoulder helps America grow stronger.

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in modern telephone service to the communities we serve in 21 states.

We're the nation's largest independent telephone system ...
ready for a big job in an expanding America.



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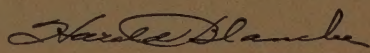
Cellulose...Cornerstone of Diversification

A basic position in the production of its raw materials is important to the long term strength of a company engaged in the business of supplying fibrous materials to industry. It is also important that the basic materials be plentiful, cheap and easily processed. Cellulose, the principal raw material upon which we founded our business, continues to fulfill these requirements superlatively well.

Cellulose is the most abundant fibrous raw material in the world. It is an easily replenished, low cost high polymer already synthesized by nature. Its long chain polymeric molecules are ideally adaptable, through chemical and physical change, for varied fiber formation. The product and market growth possibilities inherent in cellulose are still relatively unexplored and unexploited. It constitutes an adequate single base for continued broad product diversification.

For these reasons, a few years ago we established our basic position as a cellulose producer, partly through creation of affiliated companies in other countries. Even before this position was achieved, we concentrated attention on research and development in cellulose for our textile and plastics business. In fact, we have followed this policy since we instituted commercial production of cellulose acetate fibers in the United States thirty years ago. Although we continue extensive research in other polymers, our experience convinces us that the potential for cellulose is fully as large and perhaps susceptible to faster realization than for most other raw materials.

We are at present introducing two new cellulosic fibers to the market which we believe will achieve major importance. One is Arnel,[†] a triacetate fiber of remarkably balanced desirable properties, which should reach the public in a few months in garments.


President

CELANESE CORPORATION OF AMERICA, 180 MADISON AVENUE, NEW YORK 16
CHEMICALS . . . CHEMICAL FIBERS AND YARNS . . . TEXTILES . . . PLASTICS . . . CELLULOSE

[†]Trademark



The daisy that deals in Death!

This is a beautiful daisy grown in Africa. From it, science extracts chemical substances called pyrethrins. These are unique among insecticides in combining terrific paralyzing and killing effects on insects with extreme safety to man.

Everyone knows, of course, that pyrethrins kill insects—but nobody knows exactly *how*. Gulf research scientists are helping to solve this problem. An answer may result in more effective insect killers.

What Gulf research scientists have done so far is to grow the daisies in a greenhouse containing "hot" gas. Mi-

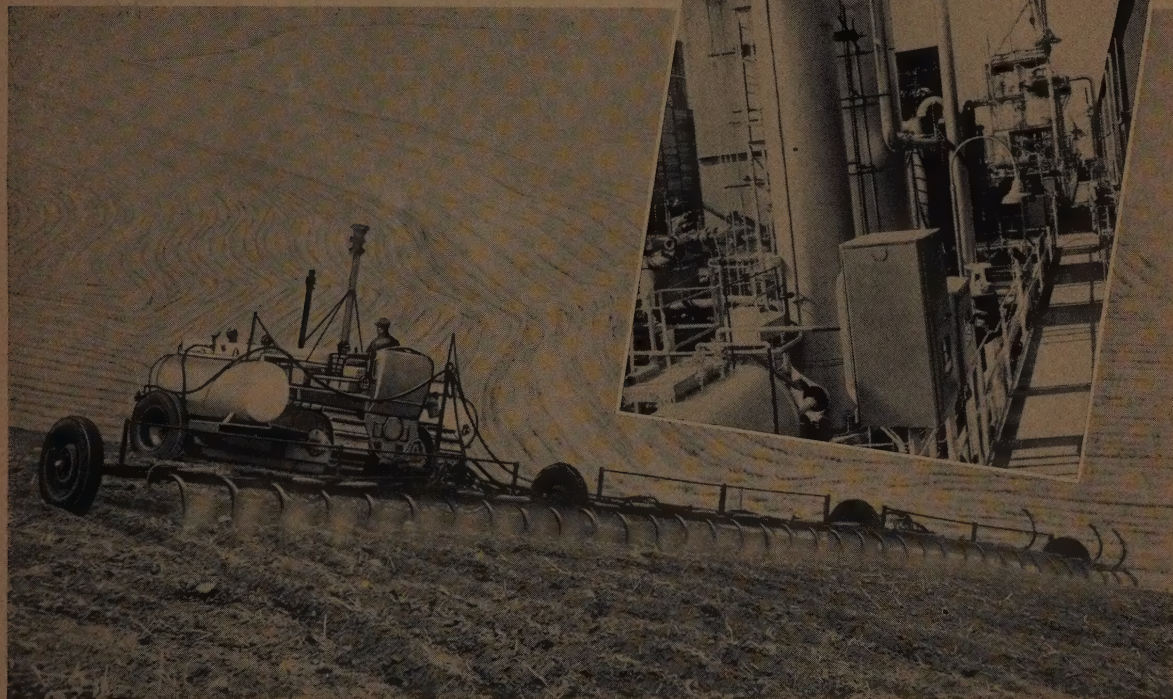
nute samples of *radioactive* pyrethrins were then extracted. But in case you're thinking of rushing out and buying some—don't! A pound would cost 18 million dollars.

These radioactive pyrethrins will act somewhat like "tracer" bullets. After they are placed on the insects, the scientists, by using a counter much more sensitive than an ordinary Geiger counter, will be able to see exactly *how* the compounds penetrate the body wall, where they go, and how they react with insect tissues to make the kill.

Gulf, manufacturers of QUICK ACTION GULFSPRAY and GULFSPRAY AEROSOL BOMB, offers this long and costly experiment merely as an example of how the oil industry is constantly working to develop new and better products for the benefit of the public it serves.



National's New Ammonia Plant Grows Dollars for Agriculture



The American farmer is demanding more and more nitrogen fertilizers . . . and with good reason. If his land lacks nitrogen, ammonia's chief ingredient, the fertilizers not only *increase* his yield, but often *double* it. No wonder he takes all he can get.

To help meet a demand which has increased 10-fold in the last five years, the new ultra-modern ammonia plant of National Distillers' U. S. Industrial Chemicals Co. division began production recently at Tuscola, Illinois, with initial capacity of 50,000 tons a year. Strategically located in one of America's great farm regions, the plant will

be a major source of fertilizer nitrogen compounds. Its giant cousin next door, National Distillers' subsidiary—National Petro-Chemicals, supplies the hydrogen from which its anhydrous ammonia, nitric acid and ammonium nitrate solutions are made.

Industry, too, is taking increasing amounts. For example, the newer textile fibres like nylon and Orlon are

partly based on ammonia. And it is widely used for synthetic resin production.

Today, this is only one of National Distillers' diversified activities, which include production of important petrochemicals, solvents, intermediate and finished chemicals—all serving the nation's growing consumer and industrial needs.

National Distillers Products Corporation

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The Analysts Journal

FEBRUARY
1955

Your Journal!
and Your Convention!

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THE EDITORS OF THE ANALYSTS JOURNAL are exceedingly grateful to H. Taylor Peery, President of the Security Analysts of San Francisco, for his call for articles. We wish all Societies might come to our assistance in our quest for authors. Many connected with the Federation have knowledge and data of importance to readers. Then, too, everywhere there are people of learning and consequence—scholars whose words of wisdom would bring distinction and prestige to THE ANALYSTS JOURNAL. Both nonmembers and members can be significant contributors, and, since the analysts meet so often, an outsider might have new and varied thoughts for the Societies. Will you all please assist us in obtaining articles, to be done exclusively for the JOURNAL, either by writing them or by finding some outstanding authority to do so?

Each finished issue is the result of searching for and obtaining articles. Some of this should be your responsibility, for the JOURNAL belongs to the Federation. We want to see it grow in importance and to be a fount of information for all financial experts.

THE MIDSUMMER ISSUE will have articles of note from which to choose. This will be the CONVENTION PROCEEDINGS ISSUE. The EIGHTH NATIONAL CONVENTION is to be held at the Hotel Commodore, 42 Street and Lexington Avenue, New York, in May. The exact dates are May 8, 9, 10, and 11. These days are to be full of unforgettable forums, field trips, and some surprises. No analyst or person interested in finance can afford to miss this Convention. Hearing the talks and meeting the eminent speakers should be a stirring experience. New York is preparing to greet you.

H. S.

VOLUME 11
NUMBER 1

THE ANALYSTS JOURNAL is published five times a year, in February, May, June, August, and November, by The National Federation of Financial Analysts Societies, Inc., a nonprofit membership corporation devoted to the interests of those engaged in investment management and, more specifically, in the profession of security analysis. Publication office: National Federation of Financial Analysts Societies Headquarters, Room 903-C, 270 Park Avenue, New York 17, N. Y. Re-entered as second-class matter March 4, 1953, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

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EDITORIAL COMMUNICATIONS AND ARTICLES FOR PUBLICATION should be addressed to Helen Slade, managing editor, 400 East 57 Street, New York 22, N. Y. Neither the Federation nor the editorial staff is responsible for the facts or opinions contained in articles appearing in THE ANALYSTS JOURNAL.

ANNUAL SUBSCRIPTION price for five issues \$5; foreign subscription \$5.50; single copies are \$1.50, foreign \$1.75. Checks should be drawn to the order of THE ANALYSTS JOURNAL and forwarded to Room 903-C, 270 Park Avenue, New York 17, N. Y.

HOOKER enters its 50th year

*with increased sales...higher earnings...
expanded facilities...new markets*

RESULTS OF OPERATIONS

for the years ended November 30

	1954	1953
Net sales of chemical products and services	\$44,567,700	\$38,693,000
Plus: Other income from interest, dividends, licenses, etc.	932,000	773,500
Equals: TOTAL INCOME	\$45,499,700	\$39,466,500
Less: OUR COSTS OF DOING BUSINESS		
Wages, salaries, payroll costs	\$11,860,900	\$ 9,737,200
Raw materials, power, fuel, transportation, local and state taxes, other costs	21,432,800	19,389,000
Depreciation on buildings, equipment	3,756,300	3,022,400
TOTAL	\$37,050,000	\$32,148,600
Leaves: PROFIT BEFORE INCOME TAXES \$	8,449,700	\$ 7,317,900
Less: FEDERAL INCOME TAXES	4,280,000	3,939,600
Leaves: NET PROFIT	\$ 4,169,700	\$ 3,378,300
Less: CASH DIVIDENDS	2,671,800	2,524,300
Leaves: RETAINED FOR USE IN BUSINESS	\$1,497,900	\$ 854,000

FINANCIAL POSITION—Fiscal Year End

CURRENT ASSETS	\$17,611,300	\$20,689,100
Less: CURRENT LIABILITIES	3,594,700	3,823,500
Leaves: WORKING CAPITAL	\$14,016,600	\$16,865,600
CURRENT RATIO	4.90 to 1	5.41 to 1
TOTAL ASSETS	\$63,491,800	\$62,222,700
Less: TOTAL LIABILITIES	23,594,700	23,823,500
Leaves: NET WORTH	\$39,897,100	\$38,399,200
PER SHARE DATA (based on shares outstanding at November 30, 1954, giving effect to 3 for 1 split in November, 1954)		
Earnings Per Common Share	\$ 1.20	\$ 0.95
Annual Dividend Rate Per Common Share .	0.80	0.67
Book Value Per Common Share	8.71	8.00

Net sales for 1954 total \$44,567,700, highest in the company's history—up 15% from 1953.

Net income before Federal taxes also rose 15% to \$8,449,700. Net after taxes was \$4,169,700, up 23%.

Earnings per common share, after preferred dividends, were \$1.20 on 2,961,768 shares (stock was split three for one on November 16, 1954). In 1953 they equalled \$2.87 on 977,754 shares. (1954 equivalent would be \$3.64 per share.)

Facilities were expanded further. The new Montague, Mich., plant began operations in March; Tacoma expanded its ammonia capacity; new central research laboratories opened at Niagara Falls in June; other production facilities were increased.

New markets were opened. Products made from Hetron resins are now offered in commercial quantities by fabricators; Tacoma started barge shipments of caustic soda and chlorine to Alaska's first large pulp mill.

DETAILED ANNUAL REPORT in booklet form, including 10-year summary, will be sent upon request. Please write to the Secretary, Hooker Electrochemical Company, 31 Forty-seventh Street, Niagara Falls, N. Y.

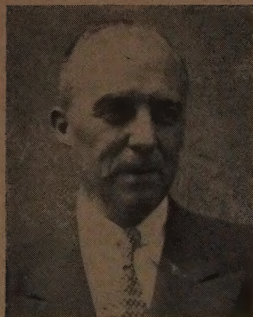


1905—Half a Century of Chemicals

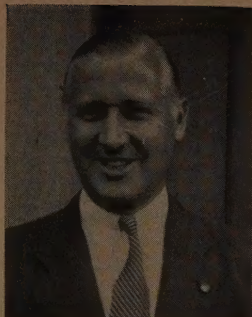
From the Salt of the Earth—1955

HOOKER ELECTROCHEMICAL COMPANY

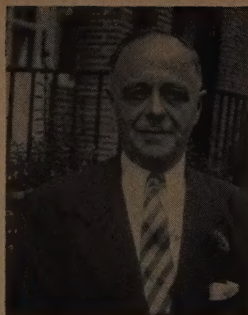
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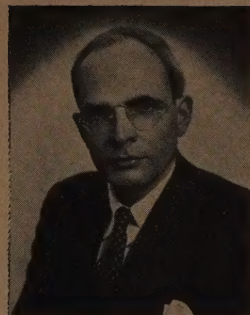
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National Federation of Financial Analysts Societies

Hotel Commodore

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May 8 through 11, 1955

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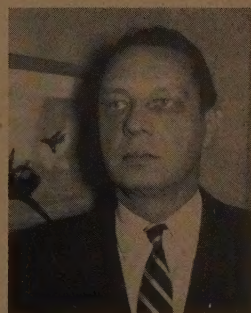
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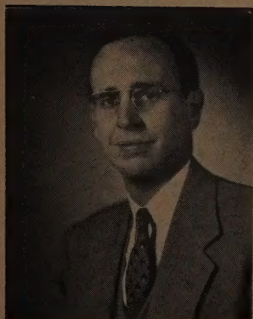
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Under Secretary of the Treasury MARION B. FOLSOM is well known as a writer on taxes, social insurance, industrial relations, and business subjects. He was director of the House of Representatives special committee on economic policy and planning for the 78th and 79th Congresses, vice-chairman of the Committee for Economic Development, and member of many Government finance and planning committees. He has served as director, president, and trustee of many savings associations and banks. Before becoming Under Secretary, Mr. Folsom was treasurer and director of Eastman Kodak Company, having been with that company from 1914.

For the past six years, ARNOLD C. SCHUMACHER has acted as research director for Economic Trend Line Studies, a private research organization in Chicago. He served as economist during World War II with the Department of Commerce in Washington. He has been economist for Sheridan, Farwell & Morrison, Chicago investment counsel organization, and Scudder, Stevens & Clark.

RAGNAR D. NAESS, partner of Naess & Thomas, is author of many articles of various publications. He has also been consulted frequently by Treasury officials and other Government parties for his views on matters pertaining to the budget. As a lecturer he is widely known.

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President of the New York, New Haven & Hartford Railroad, PATRICK B. MCGINNIS is an investment expert, lecturer, and editor on railroad securities. He is president of several companies and was previously senior partner and president of McGinnis & Company, chairman of the board of the Norfolk Southern and Central of Georgia Railways, and a partner in Jennys & Company and Pflugfelder, Bampton & Rust, both firms specialists in railroad securities.

Now president of the Trane Company, manufacturers of air conditioning equipment, DONALD C. MINARD was one of the first students of the company's postgraduate engineers' training program in 1925. A mechanical engineer, he served two years as field representative for the company in Buffalo and then became manager of heating sales in the home office at La Crosse, Wis.

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GRANT TORRANCE is vice-president and treasurer of the Business Men's Assurance Company of America, Kansas City, Mo. He has been affiliated with this organization since 1932 and with their investment department since 1935. He is a director and member of the executive and finance committee of Kansas City Title Insurance Company, as well as having a leading part in many Kansas City organizations.

As vice-president of finance for Chesapeake & Ohio Railway Company, JOHN E. KUSIK is in charge of finances, accounting, and tax administration. He is a member of a number of professional organizations, including the Finance Planning Council of the American Management Association and the Long-Range Planning Council of the National Industrial Conference Board.

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Authors

A former metropolitan newspaperman and later country editor, **CHARLES H. RUTLEDGE** is now manager of the product information section, textile fibers department, for E. I. du Pont de Nemours & Company. He formerly did public relations work for the Coca-Cola Company.

Assistant vice-president of Marine Midland Corporation and Marine Midland Trust Company of New York, **JOHN P. SULLIVAN** is in charge of the central research department of the Marine Midland system and has been with that organization for ten years. He has done other institutional investment work and began his investment career with the brokerage firm of W. R. K. Taylor & Company in 1928.

JOSEPH STUART MITCHELL is general partner in the investment counsel firm of Nobbe & Mitchell of Louisville, Ky., whose business was originally established in 1931 by Edward O. Nobbe.

Associated with Kuhn, Loeb & Company, **PHILIP K. ANTHONY** has been in the investment banking business for more than twenty-five years. He is a graduate of the Wharton School of the University of Pennsylvania, and during World War II was a lieutenant colonel in the Army, engaged in the renegotiation activity.

STEPHEN L. JOSEPH is manager of the research and investment advisory departments of Bache & Company. He is also a lecturer at the College of the City of New York, where he conducts a course in advanced investment analysis.

One of the oldest members of the Put and Call Brokers and Dealers Association in time of continuous operation of the option business, **HERBERT FILER** has been in the put and call option business for thirty-five years, and appeared in 1934 before the Committee of the House of Representatives and the Senate in its defense. He has visited the various exchanges of Europe to study their methods of doing business.

EDMUND A. MENNIS is senior analyst following the durable goods business for the Wellington Company, investment manager of the Wellington Fund. He began his investment career as an analyst for Eastman, Dillon in 1945 and later was on the investment research staff of the American Institute for Economic Research, Great Barrington, Mass. He served as statistical officer in the Army Air Corps in World War II and as a management analysis officer in the Air Force during the Korean War.

ERNEST OPPENHEIMER is security analyst for Stern Brothers & Company of Kansas City, Mo. Previously he held positions with the U. S. Department of State and with Stanford University. He received a Ph.D. degree from the University of Chicago in 1948.

ALAN D. WHITNEY was in commercial and mortgage banking for twenty years and has been in the investment field since. From 1944 to 1948 he was associated with Security Supervisors in Chicago, and has been an independent investment adviser since that time.

A member of the New York Bar, **HERBERT R. SILVERMAN** is vice-president and director of James Talcott, factors, and chairman of the board of National Commercial Finance Conference. He has been president of Centaur Credit Corporation and was first president of the Association of Commercial Discount Companies. He has spoken before banking and credit groups and has been a contributor to numerous accounting and business periodicals.

JESSE ROBISON is an associate with Gartley & Associates, engaged in financial public relations. He previously held administrative and executive positions with a number of Government agencies, including the War Production Board, Smaller War Plants Corporation, the Salary Stabilization Board, and Office of Price Stabilization. He has been manager of the statistical department of Halle & Stieglitz and a member of the investment advisory department of Lehman Brothers.

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TELEPHONING FROM AUTOMOBILES, TRUCKS, BOATS The mobile telephone resembles an ordinary telephone, except that it contains a "push-to-talk" button. Conversations may travel part way by radio and part way by telephone line. Bell telephone companies can supply either complete mobile service, or furnish and maintain equipment for private radio systems.

More and More Telephones Are Going Traveling These Days

Bell System mobile telephone service—a big time and money saver—is growing rapidly.

This service is now available in 210 areas in the United States, including most cities of over 150,000 and many smaller places.

Traveling telephones are necessities to many lines of business having vehicles on the road and to professional people.

Often mobile service is the *only* way to reach quickly a moving car, truck or boat. And from a mobile

telephone you can talk with your own dispatcher's office or with any other telephone anywhere.

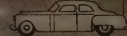
Mobile telephones cut labor and vehicle-operating costs for many types of business. Bell System customers receive these advantages without capital outlay, equipment obsolescence or maintenance problems.

This modern convenience is another example of how the telephone is being made useful to more and more people.

THREE TYPES OF SERVICE



GENERAL Two-way telephone service between a mobile telephone and any other telephone.



DISPATCHING Special two-way dispatch service between a particular telephone at a customer's dispatching office and mobile units in his vehicles.



SIGNALING One-way, non-talking service to notify the driver of a particular vehicle to comply with prearranged instructions, such as calling the office from the nearest telephone.

Bell Telephone System



Improving the Federal Tax System

MARION B. FOLSOM

THE HAPHAZARD DEVELOPMENT of our tax system, in periods of depression, war, and defense buildup, permitted inequities and inconsistencies to arise. In fact, the law itself became complex, cumbersome, and in some cases unclear. Substantial impediments to economic development appeared.

For several years, businessmen and others have urged the removal of tax restraints. The new Code goes far in that direction. The tax system, however, cannot itself provide economic growth. That will depend in large measure on the response of businessmen and investors to this improvement in our economic climate.

The basic purpose of the new tax law was tax revision, not tax reduction. Most of the Administration's tax reduction program was in effect when the revision bill was being considered by Congress.

The chief purposes of the revision were (1) to remove inequities, (2) to reduce restraints on economic growth and the creation of jobs, (3) to close loopholes, and (4) to clarify the law.

THE REMOVAL OF INEQUITIES

The removal of tax inequities means fairer treatment and reduced hardship for millions of taxpayers.

For example, parents need no longer be on guard lest a child be disqualified as a dependent because his vacation or part-time earnings exceed \$600. The new law waives this income test where the dependent is the taxpayer's child under the age of 19, or is a student.

The new law eliminates inequities in the treatment of annuities which existed under the 1939 Code. The purchaser of an annuity will be allowed a uniform annual exclusion, sufficient to permit him to recover his entire capital tax-free over the period of his life expectancy. Restrictions on the deductibility of charitable contributions have been eased.

REMOVAL OF DETERRENTS TO BUSINESS EXPANSION

Another objective of our work was the reduction of tax deterrents to the expansion of investment in private business. Business growth is necessary for the production of better goods at lower prices and the creation of more and better jobs. A number of the provisions in the new law are focused on this objective. The most important of these is a new and more realistic treatment of depreciation.

The new Code will give taxpayers much greater latitude in the selection of methods of depreciation and allows a more rapid write-off of the tax basis of the property. The taxpayer will be permitted to compute depreciation under the declining-balance method at double the straight-line rate. Thus the allowable deductions will conform more closely to true depreciation, since two thirds of the cost will be written off during the first half of the asset's life,

as compared with only one half under the straight-line formula.

Although discussions concerning the new provisions have tended to concentrate on this declining-balance formula, specific provision has also been made for the use of the sum-of-the-years'-digits method. In addition, a taxpayer who elects the 200% declining-balance method is given the option to switch to straight-line depreciation at any time during the life of the property.

This will assure recovery of the full cost over the service life of the asset, a result that would not always be obtained under the declining-balance method. Hence, this option removes a possible impediment to the adoption of the declining-balance formula.

The new law provides a modest degree of relief from double taxation of corporate dividends. This double taxation is a major injustice, a penalty on equity financing, and a serious obstacle to business expansion. Development of new enterprises and growth of old ones are largely dependent on risk capital.

Double taxation of dividends makes it difficult to attract risk capital and encourages corporations to finance themselves by bonded indebtedness, because interest can be deducted for tax purposes. In recent years over three quarters of the outside financing of industry has taken the form of bonded indebtedness, thus making the economy more vulnerable in periods of business unsettlement.

Under the new Code, stockholders are to be permitted to exclude from their gross income up to \$50 of dividends, and will be allowed a credit against tax equal to 4% of the dividends in excess of the exclusion. The amount of the credit is limited to 2% of the stockholder's total taxable income in 1954 and to 4% in later years.

This \$50 exclusion is particularly important since it will give small taxpayers a proportionately greater incentive to invest in equity securities. It is essential to the growth and stability of the Nation that equity funds be readily available to new and growing businesses and that the ownership of corporate enterprise be spread widely among all our citizens.

The new Code will be fairer and less burdensome to those businesses having irregular and fluctuating earnings. The period for the carry-back of losses is extended from one to two years.

This provides, in combination with the five-year carry-forward, a total span of eight years for absorption of a loss. The additional carry-back increases the possibility of immediate relief through tax refunds when business is losing money and needs relief most.

The law eliminates the requirement that the loss carry-over be decreased by an adjustment of the intercompany dividend credit, the excess of percentage over cost deple-

tion, and tax-exempt interest. These changes cut down substantially the tax disadvantages of businesses with uneven earnings, which are apt to be the unusually risky enterprises of critical importance to the development of the economy.

Changes in the tax relating to the unreasonable accumulation of surplus will also contribute to the expansion of the economy. The continuance of this tax is necessary, in order to prevent the use of the corporation for avoiding the surtax on individual shareholders. But changes in the tax make it less harsh than under the old law.

Under the new Code, the taxpayer by supplying information can shift to the Government the burden of proof as to reasonableness. Instead of having to show an immediate and specific need for the retained earnings, the taxpayer will be required to show that the retained earnings are necessary to meet "reasonably anticipated" business needs. An accumulation of \$60,000 can be made without threat of penalty; and the tax, when imposed, will apply only to the portion of the retained earnings found to be unreasonable. Liberalizing the law and clarifying the taxpayer's position will do away with the disturbing impacts of the penalty tax on dividend and investment policies.

LOOPHOLES

Our third objective was to close loopholes. This involved repairing more than 50 provisions in the old law, which enabled taxpayers to avoid their fair share of the burden by taking advantage of technicalities. These loophole-closing provisions will save revenue, make the tax system fairer, and eliminate economic distortion which has been due to arrangements adopted merely for purposes of tax avoidance.

CLARIFICATION

For years taxpayers have been pleading that the tax law be made clearer so as to lighten the burden of compliance and reduce the amount of paperwork.

In the revision, the provisions of the law have been arranged in a more logical order, obsolete material has been deleted, and the language has been made more certain and understandable. In some important areas, where the taxpayer had previously been forced to rely on court decisions and administrative rulings, clear statutory guidance has been provided. We have tried to reduce to a minimum the situations in which heavy reliance is placed on the judgment of the internal revenue agent.

In the clarification of the law the income tax provisions have been brought into closer conformity with generally accepted accounting principles.

* * *

Despite our efforts and work on the revision bill and our achievements, there remain sections in which further work must be done. A number of such areas have been deliberately reserved for further study.

We have gone far toward fulfilling the purposes of the revision which were to remove inequities, reduce restraints on economic growth and creation of jobs, close loopholes, and clarify the law. We have aimed at accomplishing the philosophy of tax revision as expressed in the President's January 1954 Budget Message: "We must restore conditions which will permit traditional American initiative and production genius to push on to ever higher standards of living and employment. Among these conditions, a fair tax system with minimum restraints on small and growing businesses is especially important."

Newport News Shipbuilding and Dry Dock Company

Quarterly Statement of Billings, Estimated Unbilled Balance of Major Contracts and Number of Employees

(Subject to audit adjustments)

	Three Fiscal Months Ended		Year Ended	
Billings during the period:	December 31, 1954	December 31, 1953	December 31, 1954	December 31, 1953
Shipbuilding contracts	\$25,881,239	\$29,428,577	\$111,324,440	\$ 93,748,637
Ship conversions and repairs	4,702,996	9,653,964	23,453,646	46,477,078
Hydraulic turbines and accessories	1,423,194	1,624,198	6,009,625	5,242,376
Other work and operations	2,712,932	2,978,001	12,870,934	10,815,588
Totals	<u>\$34,720,361</u>	<u>\$43,684,740</u>	<u>\$153,658,645</u>	<u>\$156,283,679</u>
Estimated balance of major contracts unbilled at the close of the period	At Dec. 31, 1954		At Dec. 31, 1953	
	\$173,022,484		\$181,562,872	
Number of employees on roll at the close of the period	13,409		16,286	

The Company reports income from long-term shipbuilding contracts on the percentage-of-completion basis; such income for any period will therefore vary from the billings on the contracts. Contract billings and estimated unbilled balances are subject to possible adjustments resulting from statutory and contractual provisions.

By Order of the Board of Directors
R. I. FLETCHER, Financial Vice President

January 26, 1955

1954 marked by expanding capacity

as Glidden builds to meet demands
for products



The 1954 Annual Report of The Glidden Company emphasizes a year of physical growth. New equipment and facilities for various divisions of the Company were established or started from coast to coast. This expansion program will involve a dollar expenditure greatly increased over previous years. It confirms the confidence of Glidden in the future and that the Company will be ready to meet the accelerated demand for its many diversified products.

From the President's letter:

construction started on first \$10,000,000 unit of a new Titanium Dioxide plant in Baltimore. One hundred fifteen acres of land acquired . . . with two more comparable units planned.

. . . construction started on a 6,500,000 bushel terminal grain-storage elevator in Chicago to cost more than \$5,000,000 . . . advantageously located for St. Lawrence Seaway.

. . . new \$600,000 Montreal paint plant dedicated. Industrial paint plant in Los Angeles area being planned. Mound City Paint and Color Company of St. Louis acquired, materially strengthening our distribution in the Mississippi and Texas markets. New Toronto paint Laboratory and Technical Service Center under construction. Plans announced for adding sixty company-controlled modern drive-in paint centers.

. . . essential equipment added to increase our synthetic resin and polyester capacity at our Cleveland, Chicago and Toronto paint plants.

. . . addition of new hydrogen plant and expanded coconut and spice production facilities for Durkee Famous Foods Division at Elmhurst, plus additional storage and production facilities at Louisville, Berkeley and Chicago Durkee vegetable oil refineries.

. . . materially expanded capacity under way and further major expansion planned for isolated protein, soya flour and lecithin products of Chemurgy Division.

. . . development of zinc and copper property in California continued to progress.

. . . Naval Stores Division showed a steady enlargement in scope of operations . . . with considerably more productive capacity for rosin-based specialty products and terpene derivatives with further substantial expansion expected during the coming year.

. . . foreign developments: Ishihara Sangyo Kaisha Ltd's, licensed titanium dioxide plant of Japan entered production; major paint producers in Australia, France, Sweden, Norway, Denmark, Belgium, Holland, Italy, Great Britain, Finland, Iceland and Cuba have been licensed to manufacture Spred Satin and companion paint lines; arrangements were concluded for manufacture of our

full paint line in Cuba, with a Glidden stock interest; negotiations in process for expanding these foreign arrangements in other Latin American markets. . . . research and development expenditures were the largest in Company history.

. . . Central Organic Research Laboratory was established in Chicago to engage in projects in the field of organic chemistry and nutrition for Chemurgy, Food and Paint Divisions.

. . . joint research with Bohn Aluminum and Brass Corporation was continued on titanium metal.

. . . Spred Glide-On, an exterior vinyl latex paint for stucco, brick, concrete and asbestos shingle siding houses, was introduced with exceptional acceptance.

. . . aggressive marketing policy adopted for Glidden "RG" Soya Lecithin, a dietary source of choline, inositol and phosphorus.

ALSO FROM THE LETTER

Net profit after taxes and all charges was \$7,093,043 compared to \$7,109,272 in 1953. This amounted to \$3.09 per share on the 2,293,455 shares outstanding. In 1953 earnings were \$3.10 per share on 2,290,794 shares.

Earnings before income taxes amounted to \$14,235,043. Regular dividends totaling \$2.00 per share were paid during 1954. Net worth of the company increased in 1954 by \$2,598,287 to \$76,922,608.

Net profit after taxes and all charges was \$7,093,043 compared to \$7,109,272 in 1953. This amounted to \$3.09 per share on the 2,293,455 shares outstanding. In 1953 earnings were \$3.10 per share on 2,290,794 shares.

CONDENSED CONSOLIDATED BALANCE SHEET

Assets		Liabilities	
Current Assets	\$ 66,472,821	Current Liabilities	\$ 15,247,147
Other Assets	1,703,788	Long-Term Debt	10,500,000
Property, Plant and		Capital Stock & Surplus	32,678,342
Equipment	34,493,146	Earned Surplus	44,244,266
Total Assets	\$102,669,755	Total Liabilities	\$102,669,755

CONDENSED CONSOLIDATED INCOME STATEMENT

Net Sales	\$209,083,579
Income Before Taxes on Income	14,235,043
Taxes on Income—Estimated	7,142,000
Consolidated Net Income	7,093,043

A copy of the Company's Annual Report will be sent on request.

THE GLIDDEN COMPANY • Cleveland 14, Ohio



A new star on the chemical horizon
NITROPARAFFINS



In the starred area above, construction is well underway on the new five million dollar plant for the commercial production of the Nitroparaffins and their remarkable family of derivatives. The new plant, a major step in the company's Nitroparaffin expansion program, is expected to go on stream August 1955.

Located at Sterlington, Louisiana, the new plant is surrounded by CSC's petrochemical facilities, which produce such useful and basic chemicals as methanol, ammonia, and nitric acid. In addition to the new Nitroparaffins plant, existing facilities at Peoria, Illinois, are being expanded.

Virtually laboratory curiosities a few years ago, the Nitroparaffins have been under study since 1935 in a continuing program of experimental production and evaluation. The four Nitroparaffins and six derivatives, which have already proven useful in a wide range of applications, represent only a small fraction of the total number of derivatives under current investigation. The new chemicals represent a unique field of organic chemistry and hold unusual promise for virtually every industry.

The experience of Commercial Solvents Corporation in evaluating these versatile chemicals is available on request to every manufacturer.

Petrochemicals



Biochemicals

COMMERCIAL SOLVENTS CORPORATION

260 Madison Avenue, New York 16, N. Y.

The Relationship of Money Forces to Equity Prices

ARNOLD C. SCHUMACHER

THE PROBLEM OF PROPER CYCLE TIMING in investing in common stocks or liquidating equities is one that has been approached in a variety of ways. Literally hundreds of "systems" have been evolved since the First World War, purporting to tell their followers when to purchase common stocks to take advantage of a broad upsurge in the market, and, conversely, when to sell stocks to escape a drastic decline in prices.

Some of these techniques have a history of fair reliability, but a far greater number do not withstand the test of time and fall by the wayside. The American economy (and the stock market) is exceedingly dynamic and subject to an infinite number of variables which determine cycle movements. It is only reasonable, therefore, to recognize the considerable risk involved in employing any device designed to "forecast" or indicate future stock-market action.

For several years a private group of investors and corporations have supported, on a co-operative and nonprofit basis, some rather significant research on the relationship of money forces to business activity and the equity markets. This work has as its underlying premise that the behavior of money determines, well in advance, the likely price movement of common stocks and other basic markets.

The research is directed at answering, week by week, such questions as "Are people going into debt at a faster rate than incomes would warrant?," "Is the level of overall spending expanding or contracting?," "What is the make-up and use of the money supply?" In short, the objective is to measure the financial position of individuals and businesses in the composite each week, and historically this has been an interesting stock-market barometer.

The origin of this work goes back a substantial number of years to the early 1920's. The noted economist, Carl Snyder, was responsible, at least in part, for developing some of the basic concepts. For many years the work has been carried on by Chester D. Tripp, prominent economist and industrialist. The study has been used as a tool in applied investment management for over twenty-five years.

MEASURING THE MONEY FORCES

There are, of course, a great many ways in which to organize the data of the Nation's money and banking system to tell a meaningful story of the economy. The one presented here is a construction that, by experiment, has provided some favorable results.

Each week the releases of the Federal Reserve System, covering reporting member banks in leading cities, and certain other releases provide raw material showing changes in bank loans, deposits, bank investments, reserves, money

gold stocks, and money in circulation. Data are selected from these reports and processed by a basic formula, which has been used since 1926 without any significant alteration.

This formula consists of three relatively simple ratios which are combined into a single figure. This figure is placed on an index basis and charted every week. The resulting line is designated as the economic trend line.

When the economic trend line is rising, the presumption is that money conditions are favorable to rising equity prices. The converse is true when the trend line is declining. During periods of weakness in the line, the money forces are interpreted as exerting a downward pressure on the price structure of common stocks.

The economic trend line is an index based on the year 1926. However, this index base is used primarily to facilitate computation. Studies indicate that it is the direction of movement of the line that is primarily important and not the actual level. Thus, the important consideration is whether the line is advancing or declining, rather than whether it is relatively high or low at any particular time.

The accompanying chart shows the movement of the trend line since 1926 along with the Dow Jones industrial average. The line is presented here in strictly diagrammatic form, with the major turning points shown as rather sharp angles.

In actual practice, the line tends to move up and down somewhat more smoothly, but the turning points stand out clearly in the actual figures. For purposes of presentation, we have emphasized the periods when the line changed direction.

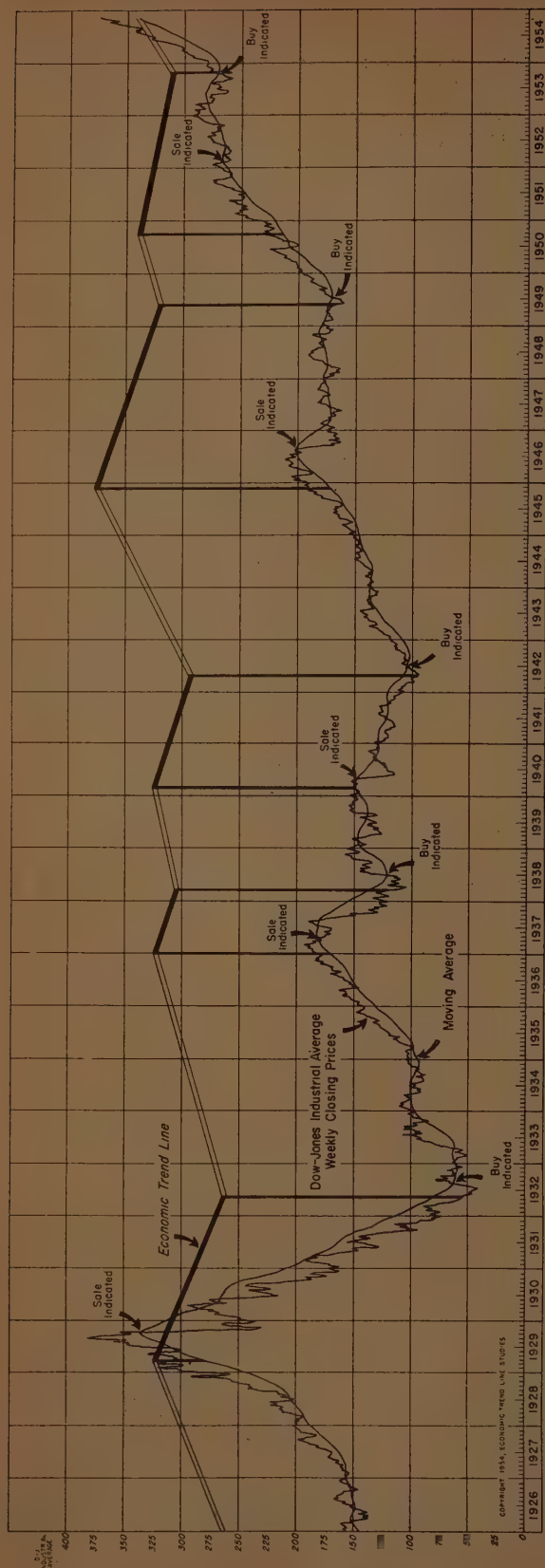
It should be pointed out that, owing to the technical construction (employment of long-term moving averages, seasonal adjustment factors, and similar factors), a change in the direction of the line is decisive and quite easy to interpret. The calculation is not subject to confusing short-range swings.

THREE RATIOS

How is the trend line itself computed? As was stated previously, the construction is based on three mathematical ratios.

The first is designed to measure the quantity of available money resources, in relation to the current needs of business for credit. The numerator of the ratio is composed of all bank deposits (less Government deposits) minus total bank loans.

Since the bulk of all deposit liabilities of banks are supported by either loans or investments, this calculation essentially represents that portion of deposits backed by in-



vestment assets which may be made available for further lending operations. Government deposits are excluded because these usually are held only temporarily, and, when Government funds are spent, the transfer is reflected in other deposits.

The denominator of this ratio is total bank loans. Bank loans indicate the demand by individuals and businesses for credit. When bank loans rise, debts of the public are increasing; when such loans contract, debt is being liquidated.

When the loanable resources of banks (the numerator) are rising faster than loans (the denominator), there is little likelihood of any credit stringency, and the ratio will increase week by week. On the other hand, if the public is expanding its debt at a time when available lending resources are contracting, the implication is that the credit structure is becoming vulnerable.

RELATIVE TRENDS ONLY

It should be emphasized that this ratio is not designed to show any "shortage" or "excess" of loanable funds in absolute terms. The construction measures relative trends only.

As a practical matter, it is difficult, if not impossible, to discover in absolute terms when loanable funds are in "short" supply. However, it is of value to know when lending activities of banks are proceeding at a faster pace than is warranted by loanable resources.

The second of the three ratios is computed by dividing all bank deposits plus currency by the total monetary gold stock. Deposits plus currency constitute a measure of the money supply, while gold forms an important part of the credit base on which that money supply rests. Under present law 25% of all currency issued plus all Federal Reserve deposit liabilities must be secured by gold certificates.

An inflow of gold in the monetary structure increases the ability of the banking system to expand loans or investments. If the money supply is increasing at a faster rate than gold stocks, reserves decline, and the monetary authorities may consider action to limit credit expansion. However, when gold stocks are rising more rapidly than the money supply, the credit base is being broadened and enabled to support increased loans and investments.

QUALITY OF MONEY

This second ratio, in a sense, measures the "quality" of money in relation to gold. Gold increases or decreases slowly, as a result of shifts in foreign trade or domestic production.

Money created through gold is inherently less active than money created by bank loans. The latter is likely to be spent quickly and enter into the stream of business transactions. However, money generated by gold additions may remain as idle balances for a considerable period of time.

The third and final ratio attempts to measure the impact of spending on the economy. The numerator of this ratio consists of debits (check clearings) to individual bank accounts.

Since between 80 and 90% of all transactions in the United States are consummated by means of checks drawn on deposit accounts, this series gives an accurate measure

of current spending. Since every expenditure represents a demand for some product or service, the debit figures show demand in the total economy expressed in dollar terms.

The denominator of this ratio is business bank loans. Business loans are a gage to production, since an expanding production requires financing, and this usually means bank borrowing. We are using the term "production" here in a very broad sense including inventory accumulation, plant expansion, and so on.

It is important to remember that many firms do not rely on borrowing, but employ existing working capital funds to finance increases in output. However, bank loans represent those marginal increases in production that can not be financed by the cash resources of business. Thus, business loan trends are more sensitive to changes in the rate of production than certain measures of total output. Business bank loans are, in essence, a highly responsive indicator of production of goods.

This third ratio is fundamentally a relationship between demand (spending as reflected in debits) and supply (bank loans made to business). When spending is moving ahead faster than production, the implications are that inventories are shrinking and that higher levels of output are necessary to meet the demand.

The converse is true when output is moving ahead faster than goods can be absorbed by the spending stream. The ratio value moves up in the former instance and down in the latter.

These are the three ratios that are combined to form the economic trend line. The first is a measure of debt; the second gages the money supply; and the third shows the spending pattern.

We can apply the analogy to an individual. The personal financial situation of an individual depends largely on the debts he owes, how much money he has, and his spending (income) situation. This is substantially what the economic trend line, in an admittedly rather crude form, attempts to do for the entire country each week.

THE APPLICATION TO SECURITY MARKETS

The accompanying chart shows the course of the economic trend line, as it has been constructed each week, based on the fixed formula, since the year 1926. The broad line at the top shows the rising and declining phases.

As has been pointed out, the turning points are of major significance, and these are indicated as sharp angles.

Characteristically, the line moves in one direction for relatively long periods. Through the use of long-term moving averages and seasonal adjustment factors, the line assumes a very smooth curve and is not subject to rapid short-range fluctuations.

The bottom portion of the chart shows the weekly closing prices of the Dow Jones industrial average. The irregular line is the actual closing prices, and the smooth curve is a 30 weeks' moving average of these prices.

The technique found most effective is to use the trend line in combination with this particular type of stock-market chart. The underlying theory is that, as long as the money forces are favorable, the basic pattern of equity prices is assumed to be rising. The reverse is true when the money forces indicate weakness.

However, experience shows that the stock market may move higher for several months after the monetary indicator has begun to decline. Therefore, in this situation any general selling policy should be delayed until the actual Dow Jones price penetrates the moving average of these prices.

The same is true when the money forces begin to rise. Buying should be delayed until such time as the actual prices have penetrated the moving average. A few examples will illustrate the method.

In March 1929, there was a sudden reversal in the rising pattern of the trend line. However, it was not until October that the moving average was penetrated by the actual price line.

A SALE INDICATION

This was a "sale" indication. As long as the trend line continues in the same direction, all subsequent crossings (after the first one) are ignored.

Thus, in 1930, actual prices crossed the moving average, but the trend line was still in a downward phase. Therefore, this crossing was of no importance.

In May of 1932, the trend line, after a long decline, started to move up. The following July the actual market-price line crossed the moving average.

This was a buying opportunity. The market position would have been held until early 1937. At the end of 1936, the money forces reversed themselves, and, in March 1937, the actual price line fell below the moving average, thus calling for a general selling policy.

The rules for using this work are relatively simple:

CUTTER Laboratories

Producers of fine
biologicals and
pharmaceuticals

SINCE
1897

79th DIVIDEND

The Board of Directors on December 9, 1954, declared a cash dividend for the fourth quarter of the year of 11¢ per share upon the Company's common capital stock. This dividend will be paid January 20, 1955 to shareholders of record January 10, 1955.

F. A. CUTTER, Secretary
BERKELEY, CALIFORNIA

PACIFIC GAS and ELECTRIC Co.

DIVIDEND NOTICE

Common Stock Dividend No. 156

The Board of Directors on December 15, 1954, declared a cash dividend for the fourth quarter of the year of 55 cents per share upon the Company's common capital stock. This dividend will be paid by check on January 15, 1955, to common stockholders of record at the close of business on December 27, 1954. The Transfer Books will not be closed.

K. C. CHRISTENSEN, Treasurer
San Francisco, California

BOSTON EDISON COMPANY

Dividend No. 263

A quarterly dividend of 70¢ a share has been declared, payable February 1, 1955, to stockholders of record at the close of business on January 10, 1955.

Checks will be mailed from Old Colony Trust Company, Boston.
ALBERT C. McMENIMEN, Treas.
Boston, December 27, 1954.

Stocks may be held as long as the trend line and the moving average of stock prices are advancing.

However, once the trend line has turned down, preparations should be made to reduce commitments. Equities should be sold when the actual market line first crosses the moving average, after the trend line changes from a rising to a declining phase. As long as the economic trend line continues to move down, all subsequent crossings of the actual market price and the moving average should be ignored.

REPEATED IN REVERSE

The same process is repeated, in reverse, when the trend line begins to rise after a period of decline. A purchase policy is in order when the actual market line crosses the moving average. As long as the trend line continues to rise, the position in equities is maintained, and subsequent crossings are ignored, until there is a change in the complexion of the money forces.

Generally speaking, the movement of the money forces leads the crossing of the moving average at the top of a market to a greater degree than at the bottom. This lead may run from 3 to 9 months at market tops.

An interesting experience developed after 1950. The trend line began to decline as early as September 1950, but there was no decisive penetration of the moving average until February 1952. Here was a lead of one year and 4 months, an unusually long period. With respect to the bottom of markets, it will be noted that the crossing follows more quickly after the monetary forces have started to advance. In 1953, for example, the market moved up almost simultaneously with an improvement in the money factors.

REPRESENTS ONE APPROACH

This, then, represents one approach to relating the behavior of money to equity prices. The results can be seen from examining the chart.

Selling would have taken place at about the 325 level in October 1929. A new market position was established at 75 in July or August of 1932.

Selling again was called for at 180 in early 1937. Again, purchases were made at about 125 in mid-1938, to be sold at around 148 in early 1940.

1942-46 BULL MARKET

The full advantage of the 1942-46 bull market was realized from purchases at a little over 100 to sales at 200. From 1949 to 1952, the gains were from 175 to 260. Purchases were in order at the close of 1953 at about 285, and, as of this writing, the position is still maintained.

Of course, any market index might be used instead of the Dow Jones industrials. The method, in practical investment operation, can be applied to individual stocks with a considerable degree of success.

APPRAISAL

We do not wish to make any extravagant claims for this type of analysis. It appears to be a singularly helpful device for adjusting to major cycles in stock-market prices without having to indulge in conventional systems of forecasting.

There are no secrets about the work. Anyone can, by proper historical study, reconstruct the method and the formula.

There is a great deal about the functioning of money and its impact on the economy that is not understood, even by the most expert analysts. Most of the research on monetary matters has been confined to the impact of public policy and interest rates on business and markets.

However, a great deal of work should be attempted to discover the meaning of the interrelationships of debt, spending, and the composition of the money supply, particularly with reference to their practical application in cycle analysis. The National Bureau of Economic Research has published considerable material on the theoretical aspects of the problem, but these are of somewhat limited practical use.

NO EASY ANSWER

There is no easy answer to why money movements influence equity markets in the manner indicated by this article. However, the record since 1926 suggests that a correlation of cause and effect is present, and that this correlation is not likely to be due to chance.

We hold no specific brief for this method of analysis. Others may be more fruitful. However, we do believe that investment managers who neglect a study of money behavior are omitting a helpful tool of analysis.



63rd Consecutive Dividend

The Board of Directors of Rome Cable Corporation has declared consecutive Dividend No. 63 for 35 cents per share on the Common Capital Stock of the Corporation, payable January 5, 1955, to holders of record at the close of business on December 20, 1954.

GERARD A. WEISS, Secretary
Rome, N. Y., December 8, 1954

The RUBEROID Co. Asphalt & Asbestos Building Materials

243rd CONSECUTIVE DIVIDEND

On November 23, 1954, a regular quarterly dividend of 40¢ per share, a cash extra of 30¢ per share and a 2½% stock dividend on the outstanding capital stock of this corporation was declared by the Board of Directors. The cash dividend is payable December 15, 1954, and the stock dividend is payable December 29, 1954, both to stockholders of record at the close of business on December 3, 1954.

GEORGE F. BAHRIS
Secretary-Treasurer

Dividends Paid in Every Year Since 1889

The UNITED Corporation

The Board of Directors has declared a semi-annual dividend of 10 cents per share, plus an extra dividend of 7 cents per share on the COMMON STOCK, both payable December 16, 1954 to stockholders of record at the close of business November 26, 1954.

WM. M. HICKEY,
President

November 16, 1954

Dresser Financial Summary

In Thousands of Dollars

	1954	1953	1952	1951	1950
Net sales	130,242	128,869	127,356	106,148	79,969
Profit before taxes on income	13,038	9,743	10,787	10,419	7,650
Taxes on income	5,675	4,619	5,020	5,303	3,321
Net earnings	7,363	5,124	5,767	5,116	4,303
Working capital	50,360	46,504	44,808	42,303	35,621
Cash and government securities	21,472	10,847	7,844	10,273	5,440
Property, plant and equipment — net	19,144	19,118	18,289	16,584	15,574
Expenditures for property, plant and equipment	3,406	4,246	4,159	3,519	2,363
Shareholders' equity	59,496	54,883	52,299	49,236	41,475

In Dollars per Share

Earnings per common share	5.53	3.80	4.28	3.77	3.68
Dividends per common share	1.70*	1.60	1.60	1.40	1.40
Book value per common share	42.40	38.53	36.28	33.52	32.20

*Current Annual Dividend Rate \$2.00

COMPLETE 1954 ANNUAL REPORT ON REQUEST



**A GROUP OF COMPANIES
UNDER COMMON OWNERSHIP**

**ATLANTIC BUILDING
DALLAS, TEXAS**

CLARK BROS.
Olean, New York — Founded 1880

DRESSER MANUFACTURING DIVISION
Bradford, Pennsylvania — Founded 1880

DRESSER-IDECO
Columbus, Ohio — Founded 1920

IDECO
Dallas and Beaumont, Texas — Founded 1920

MAGNET COVE BARIUM
*Houston, Texas; Malvern, Arkansas;
Greybull, Wyoming — Founded 1940*

PACIFIC PUMPS
Huntington Park, California — Founded 1923

ROOTS-CONNERSVILLE BLOWER
Connorsville, Indiana — Founded 1854

SECURITY ENGINEERING
Whittier, California; Dallas, Texas — Founded 1931

MANUFACTURERS OF OIL, GAS, AND CHEMICAL EQUIPMENT

Significant Anaconda contributions to U. S. progress in metals — 1953-1954



Chile. At Chuquibambilla; huge plant for treating copper sulphide ores of Chile Exploration Company—an Anaconda subsidiary—is completed.



Copper. Anaconda's new open pit copper mine at Weed Heights, Nevada, officially opened in November, 1953, is now producing 5,000,000 lb. a month.



Aluminum. The new Anaconda reduction plant now being built near Columbia Falls, Mont. Scheduled to start production in mid-1955.



Uranium. Working with the U. S. Government, Anaconda builds a processing plant and develops uranium ore properties in New Mexico.



Brass Mills. New pre-formed copper tube grids for radiant panel heating come from The American Brass Co., an Anaconda subsidiary.



Wire Mills. Anaconda Wire & Cable Company expands research and production facilities for turning out its highly engineered line of copper and aluminum electrical conductors.

a new era of copper supply

Today an important fact faces all of us: you can't replace copper with any other metal without losing something. For copper and its alloys have many virtues—high thermal and electrical conductivity, ease of machining, forming, drawing, stamping, plating, welding, fabricating, and a high scrap value.

Since World War II, copper producers like Anaconda have been expanding mining operations here and abroad, developing new ore bodies, and revitalizing many existing mines with new methods. As a result, the U.S. faces no lack of copper. All the copper we need—for peacetime and preparedness—is there, ready to be mined, refined and fabricated for all the demands of industry.

ANACONDA

COPPER MINING COMPANY

The American Brass Company
Anaconda Wire & Cable Company
Andes Copper Mining Company
Chile Copper Company
Greene Cananea Copper Company
Anaconda Aluminum Company
Anaconda Sales Company
International Smelting and Refining Company

Investment Management in 1955

RAGNAR D. NAESS

AN IMPORTANT CLIENT who was anxious to reduce his holding of common stocks in the rapidly rising market of 1954 dramatized his arguments in a memorandum by stating: "The management of a large portfolio unfortunately is not a science; possibly at this stage of the game it is not even an art, but may be likened to the old problem of flying a World War I plane by the seat of the pilot's pants in the absence of reliable instruments."

This statement is highly provocative coming from an old timer who has been responsible for managing funds for many years. If true, it is a sorry reflection on the ability and the resourcefulness of investment managers.

I, for one, am sure that, at the present time, investment management is a field in which a scientific approach not only is possible; it is indispensable to success. In my opinion, the statement should be amended to say that the management of a large portfolio is not an exact science, but is more than an art, and may be likened to the problem of flying a B-52 bomber under difficult conditions using modern and reliable instruments. If this statement exaggerates the ability of investment managers to cope with investments in the modern world, my client's statement seriously underrates this ability.

The field of investment management has made remarkable progress during the last few decades, both in the analysis and appraisal of individual securities and in the analysis of economic conditions and the general state of the security markets. Thirty years ago there was no profession of investment managers or analysts. Investment advice was based pretty much on hearsay or on inside information obtained from those "in the know."

Today there is such a profession. The fundamental changes in the field of investment analysis are as dramatic as are the developments in many of our leading industries such as automobiles, electrical equipment, electronics, or chemicals. This fundamental change has been built on the establishment of greatly improved investment research facilities, just as in industry such facilities have been the cornerstone of our rapid economic progress.

Look back to the days of thirty years ago and consider the manner in which investment problems were usually solved by the great majority of the members of the investment fraternity. Most opinions were based on a relatively simple analysis of balance sheets and income statements, and perhaps a cursory investigation of a particular industry, or the markets and products of a particular company.

FIELD INVESTIGATIONS WERE RARE

Field investigations were rare indeed, and corporations were not particularly interested in developing and cementing public relations with the financial community or with stockholders. Little information about current developments within their companies was given out, even at stockholders' meetings.

The situation today is exactly the opposite. Investment analysts have sources of information that are extraordinarily good. Most firms in the financial community, including investment bankers, investment brokers, trust companies, commercial banks, savings banks, and insurance companies, have developed research organizations which satisfy the modern needs of the average investor.

Professional investment analysts have banded together for the promotion and dissemination of investment knowledge and have taken a great interest in establishing high standards of investment analysis. Most corporations today believe in and emphasize the importance of maintaining amicable relationships with Wall Street and with their stockholders.

In addition to the extensive information available to investment managers about individual companies and industries, an impressive array of facts in the field of general economics is being published regularly by private sources and by the United States Government. If one compares a current issue of the *Survey of Current Business* with an issue of twenty or thirty years ago, one is impressed with the progress that has been made in collecting information of value to investment analysts.

Information such as capital expenditures by private industry, or manufacturer's sales, new orders and unfilled orders were virtually unknown twenty or thirty years ago. Today the SEC and the Department of Commerce compile and publish these data in considerable detail and at frequent intervals. Newspapers and periodicals are filled with up-to-the-minute opinions and information that was not available thirty years ago.

The result is that the investment manager, if he exerts the necessary initiative, can have at his fingertip an ample flow of information regarding individual companies and industries, and a large body of facts relating to the state of business conditions. Anyone who really digs into this large body of information will be rewarded, whether he is concerned with a specific company or industry or with the general state of affairs.

THE REAL PROBLEM

The real problem, now, as always, is analyzing and interpreting the information available, so as to determine with a workable degree of accuracy and consistency the investment policy that will yield the most successful results. Applying economic theory and analyzing, interpreting, and judging a continuously changing domestic and world scene deserves far more study than it has received, and in this field much progress can still be made.

The combinations of economic, political, and psychological factors that have a bearing on the stock market or on the prices of individual stocks at any given time are virtually limitless. As a result, there are numerous methods of approach employed in dealing with this problem, rang-

ing from the use of basic economic analysis to the theories of sunspots and technical market studies of great complexity. The great need for methods of approach that will consistently lead to a successful investment policy is made abundantly clear by the eagerness with which sound investment advice is sought and the generous manner in which it is rewarded.

The reasons for the difficulties in establishing a successful investment policy lie in the limitations of our ability to appraise the future accurately. The realities of life are far more complex and dramatic than human beings can possibly anticipate.

No one could foresee the tremendous boom in the stock market in the 1920's, the abysmal depression of the 1930's, the outbreak and the scope of the Second World War, the Korean conflict, or such a development as the advent of atomic energy. No one could have been expected to foresee the rise that took place in the prices of many individual stocks during the last decade. It is no wonder that investment analysts regard their work in a humble spirit.

PREMIUM ON IMAGINATIVE THINKING

The epoch-making economic, social, and political changes taking place continuously throughout the world place a premium on imaginative thinking. Such thinking cannot rely too much on mechanical comparisons with the past, in the hope of finding a pattern that fits the present.

In dealing with the stock market, static thinking often leads to a double cross which may be very costly. Historical analysis has a place and is useful, but, in appraising future trends, the best results are possible only if the particular factors that differentiate the present situation from the past are sought out and evaluated.

Many examples of this can be given. Consider one from recent events. During 1953 there was concern about business declining into 1954, and the possibility that such a decline might mean lower profits and a drop in stock prices.

It was anticipated, for example, that prices of steel stocks would decline, with a drop in the steel rate causing quite a cut in steel earnings. This conclusion certainly seemed reasonable on the basis of past historical experience. The business decline into 1954 was quite moderate, in line with expectations, but earnings in general, including steel earnings, held up well, even with a drop in production.

Among the factors that differentiated the effect of the 1953 decline in business from those of past periods was the existence of an immense backlog of orders for private capital goods which supported business, despite a sharp drop in new orders and in the activity of many consumer-goods industries. The continued high rate of capital goods production out of shrinking order backlogs prevented the decline in consumer's goods from causing a spiraling in business activity.

Earnings were well maintained, because the elimination of excess profits taxes absorbed most and, in many instances, all of the drop in pretax earnings. High-cost steel capacity was closed down, and savings were effected by the steel companies, through the elimination of overtime pay and the reduction of overhead expenses, which had

been allowed to accumulate during the period of extraordinarily high tax rates. The price structure in the steel industry was maintained, and the consumption of steel was substantially above production.

These unusual factors were important in formulating investment policy during the year. The bearish attitude toward the stock market and toward steel stocks was not warranted, and this attitude actually created a buying opportunity during the fall of the year.

Many other examples could be given, illustrating the importance of recognizing the unusual features of any given situation. Since the Second World War, and until very recently, there has been a general fear among the investing public of a third world war, and also of a business depression in the near future. These fears turned out to be unfounded, and they had a depressing effect on the stock market, resulting in a prolonged period of low stock prices, attractive for investment buying.

At this point it may be of interest to apply an investment approach, based on a recognition and appraisal of the unusual factors that are inherent in the present situation. An analysis of the prospects for business in 1955 suggests improvement in the activity of many industries which suffered declines in 1954.

Among examples that may be mentioned, the steel industry has already staged a dramatic recovery, textiles are definitely on the way up, television and radio have been running at capacity lately, and even the agricultural equipment industry has been stirring out of its doldrums. Commodity prices should continue to be relatively stable, with moderate declines in the prices of some manufactured products more or less offsetting moderate advances in others. Raw material and agricultural prices may also show relatively little change with considerable diversity in the movements of individual commodities.

ECONOMY IN GOOD BALANCE

A more detailed analysis suggests that our economy is in good balance and that no serious decline in business is likely during the near future. As a whole, this year should be a better year than 1954. Earnings and dividends should be moderately better than last year's and a favorable investment background should continue to prevail.

There are other factors that must be carefully considered in determining investment policy at this time. They create a background that may encourage a continuation of the recent speculative upsurge to a dangerous point, inviting a potential decline in stock prices at a later date. These are:

Increased confidence that we may have a long period of peace.

A belief that rapidly advancing standards of living, based on technological progress and growth of population, should result in a large increase in production, sales, and profits over the next decade.

Widespread confidence in the power of the Government to prevent a serious decline in business, through monetary and fiscal policy, and a belief that aggressive contrainflationary action, if mass unemployment should develop, will lead to more inflation ultimately.

Large accumulated current savings in public hands that may be spent in part at least for the purchase of common stocks.

Growing demand for common stocks approaching \$1 billion a year from private pension and mutual funds.

Widening market for mutual funds, through the efforts of thousands of salesmen who teach the public about the advantages of stock ownership.

The lowest interest rates during any bull market except that of 1945-46, with easy money a political "must."

A large number of potential buyers of stocks with cash raised by selling stocks too early or kept out of the market in the hope that a better buying opportunity would arise.

These are factors of special interest for the year 1955, and they give the stock market its particular "flavor" at this time. On a purely historical basis, major bull markets continue until the average yield of a large number of industrial stocks is somewhere between 2.5 and 4%. At this writing, there appears to be room for a considerable further gain in prices on such a historical basis.

Perhaps the special factors listed as having an impact on the stock market at present will validate these historical comparisons and prove that "human nature does not change" and that "history repeats itself." In that event, the years 1955 and 1956 might well prove highly dramatic and demanding of extraordinary skill and statesmanship on the part of the profession of investment analysts.

AID IN SOUND INVESTMENT POLICY

A realistic and reasonably accurate appraisal of future business conditions and the trend of the stock market is of great aid in determining a sound investment policy. Anticipating or "foreseeing" future events, however, is not essential for success in investment management. Well-tested and basic principles of investment have been developed that assure success without reliance on one's limited ability to "foresee" the future.

First, it is essential to invest in fields of activity with

much greater than average promise of a favorable return over a period of years in terms of capital gains and income. This is a reasonable goal for any investment analyst who is willing to take the time and effort to investigate the many industries and individual companies that offer great promise.

Second, it is essential that every stock purchased is a good value at the price paid, based on current and prospective earnings and dividends. If reasonable prices are paid, good common stocks are attractive at any time except during those infrequent periods about every ten years when it is essential to exercise caution because speculation is rampant, stock prices are high and rising rapidly, yields are low, and the public is in the market buying stocks indiscriminately.

Third, it is of the essence that good stocks be held over a long period of time. Lack of patience is the Achilles heel of many investors, and opportunities to make additional gains have often been lost because of selling out good stocks too early.

PROFOUND CHANGES HAVE OCCURRED

A survey of the history of Wall Street over the last thirty years shows that profound changes have occurred in the field of investment management which have been of great benefit to the investing public. The progress that has been made in investment knowledge and analysis has opened up new opportunities in Wall Street for interesting work and for reaping large financial rewards.

Most important of all, the benefits of quality investment management have become available to the average small investor through mutual funds, pension funds, and even to some extent through life insurance. These channels give the small investor a chance to enjoy the fruits of his labor under investment management far superior to that available to him in the past. Every indication points to continued progress in the future years in the field of investment management, with increased opportunities and responsibilities for service, accompanied by increasing financial rewards for the profession of investment analysts.

* * *

1866 . . . January 31 . . . British Committee appointed to investigate Joint Stock Discount Company. Followed by a panic.

April 11 . . . Panic on the Paris Bourse.

May . . . First week great fall in prices in the Continental markets because of possible war.

May . . . Overend Gurney & Company (London, England) failed. Panic and failures during May and June.

June 20-21 . . . War declarations by Prussia, Austria, and Italy.

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Union Electric becomes publicly owned company; North American dissolves

A NEW ERA in the life of Union Electric begins January 20, 1955, when it becomes an independent company for the first time.

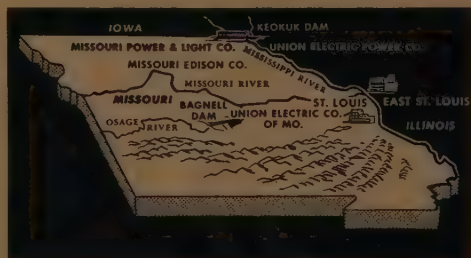
On that date 8,572,624 shares of Union Electric common stock will be distributed share for share to North American stockholders, completing the distribution of North American holdings in Union Electric under the terms of its liquidation program. During the last two years 1,697,120 shares of Union Electric common stock have been distributed to North American stockholders.

In completing its liquidation program, North American will transfer all of its remaining net assets, representing cash and sundry investments, to Union Electric. These assets, together with previous additions to Union Electric's common equity by this program, total \$40,000,000.

This addition to the financial strength of Union Electric provides an unprecedented

opportunity for greater growth and greater service. It is especially significant in view of the constantly increasing demand for electric power in the Union Electric area.

System output during the 12 months ending November 30, 1954, was over 7½ billion kilowatt hours, an increase of 288 million over the same period in 1953. And 1954 revenues are running at the rate of more than \$113 million annually, as compared with \$102 million in 1953.



UNION ELECTRIC COMPANY OF MISSOURI

Subsidiaries: *Union Electric Power Company
Missouri Power & Light Company • Missouri
Edison Company • Union Colliery Company
Poplar Ridge Coal Company • St. Louis &
Belleville Electric Railway Company*

Analyzing Electric Utility Stocks

OWEN ELY

THE UTILITY ANALYST probably has a simpler job than the analyst of industrial stocks, who must contend with a wide variety of special conditions influencing market prices. On the other hand, the analyst of electric utility stocks must compare some 135 stocks which often may seem like "peas in a pod." To discover bargains, he must not only make careful comparisons of yardstick ratios, but also study the regulatory background, analyze growth factors, and gage the ability of management to convert growth into higher share earnings.

Both rail and utility analysts are fortunate in having a wide variety of uniformly compiled and published data. Some of this is required by regulatory agencies, but, in general, the electric utilities are perfectly willing to reveal all their statistical data since (unlike industrial companies) their business is largely noncompetitive.

Thus, in addition to the annual stockholders' reports and the monthly or quarterly statements of earnings (some of which include interim comments by the president), there are the valuable yearly "statistical reports." These were originally furnished only to the Edison Electric Institute and the insurance companies, but are now made available to utility analysts on request.

In addition, a number of the larger utility companies issue special "data books," some of which are revised annually or from time to time. These are usually prepared for special occasions such as talks by officials before an analysts' Society, a due diligence meeting in connection with a security offering. For holding companies such as International Telephone & Telegraph or American & Foreign Power, the 10K reports prepared for the SEC and available at the Stock Exchange reveal additional information.

The yardsticks most frequently used in comparing utility stocks are the yield, the price-earning ratio, and the equity ratio. However, these must be analyzed in the light of many special factors, such as the following:

1. Size of the company as indicated by annual revenues.
2. Market factors—listing, institutional demand, speculative interest, and the like.
3. Territory in which the company operates and economic characteristics of the area.
4. Rate of growth as shown by postwar increase in revenues or kilowatt-hour sales.
5. Growth of share earnings and dividend payments over a period of years.
6. Latest interim share earnings, estimated earnings for the current calendar year, and budget estimate for the next year if available.
7. Dividend rate, number of years that payments have been made, and percentage payout of earnings.
8. Character of the business—percentage of revenues obtained from electricity, gas, telephone, transit, and so on.
9. Breakdown of electrical revenues—percentages from

residential, rural, commercial, industrial, and miscellaneous sources.

10. Degree of earnings leverage—the equity ratio and the percentage of revenues carried down to the balance for common.

11. Effects of weather conditions on operations:
 - (a) Adverse effects of winter weather on gas sales.
 - (b) Favorable effects of warm summers on electric air-conditioning loads.
 - (c) Effects of rainfall on irrigation pumping, for some southern and western utilities.
 - (d) Effects of drought or heavy rainfall on hydroelectric operations.
 - (e) Effects of hurricanes (Carol, Edna, and Hazel, and so on) and other storms on maintenance expenses.

12. Operating efficiency and costs:
 - (a) Proportion of steam, Diesel-electric, hydroelectric, and purchased power, and relative costs per kilowatt-hour.
 - (b) Average age of steam generating plants, projected installation of new units, and anticipated reduction in kilowatt-hour costs.
 - (c) Maintenance and depreciation—ratio to revenues, plant, and the like.

13. Special income account and cash flow factors:
 - (a) EPT in relation to share earnings (some 1954 gains reflected the end of EPT).
 - (b) Nonrecurring items such as storm damage.
 - (c) Noncash items reflected in earnings—amortization of plant acquisition adjustments (100.5), credit from interest on construction, and so on.
 - (d) Cash items not reflected in share earnings—tax savings resulting from accelerated amortization, the new 1954 tax code, and such.

14. The balance sheet setup:
 - (a) Depreciation reserve in relation to plant.
 - (b) Other special reserves, as for storm damage.
 - (c) Intangibles such as unamortized plant acquisition adjustments, deferred assets and liabilities, holding company write-ups.
 - (d) Capital ratios (equity ratios may include or exclude intangibles).
 - (e) Book value of common stock, with or without intangibles.

15. Construction and financing plans—effects on share earnings.

16. Regulatory conditions:
 - (a) Is the utility free of state regulation (as in Texas)?
 - (b) Character of the rate base allowed by the state commission.
 - (c) Policies with respect to average or year-end rate base, allowance for intangibles and plant under construction, working capital, and so on.
 - (d) Allowable return on investment compared with return actually earned.

(e) Is a rate case currently in progress, and what is the timing of the decision and the possible effect on future share earnings?

Some analytical comment on these factors may be of interest.

1. Regarding size, it seems inevitable that very small utilities (almost all of them over-the-counter) should offer more attractive yields and lower price-earnings ratios, in competition with the better-known large utilities which enjoy institutional popularity. However, the spread in yields resulting from difference in size has considerably narrowed in recent years as the smaller stocks released in the breakup of holding companies have become more seasoned market-wise. It seems doubtful whether, for utilities with revenues in excess of \$25 million a year, size is now much of a factor in prices, yield, and so on.

2. Market factors are important, particularly with respect to temporary price swings. Opinions differ as to whether listing of a stock is beneficial market-wise; some over-counter stocks have sold at relatively high levels measured by the usual yardsticks, as the result of special sponsorship by over-counter houses. On the other hand, the listed stocks benefit by institutional demand to a greater extent (the number of institutional holders is shown in the monthly publication *Data Digests*).

Temporary interest in the stock may be increased by current events such as an unusual earnings statement, a dividend increase, studies issued by brokers, a special inspection trip over the property for analysts, or a talk by the president. Political events such as the "Dixon-Yates scandal" sometimes play a market role, whether warranted or not.

3. The territory in which the utility operates is an important background factor. A few investors may be prejudiced against "big city" utility stocks because they fear the hydrogen bomb; it is doubtful whether this is much of a factor, however. Much more important is the rate of industrial growth—utilities in Florida and Texas are considered more glamorous than those in New England. The regulatory conditions in the area are also important. For portfolio purposes, broad geographical diversification is a measure of protection against the incidence of storms and droughts, bad regulation, strikes, fires, bombs, and so on.

4. The rate of growth is fairly easy to appraise, but, in obtaining the arithmetical percentage, allowance must be made for mergers, sales of property, and the like. Although growth in revenues does not insure commensurate gains in share earnings, the table accompanying this article which shows the ten ranking growth companies may nevertheless be of interest. Rate of growth usually parallels population gains, although other factors such as increasing residential use of electricity enter the picture.

5. Growth of share earnings and dividend payments is, doubtless, the most important factor in the popularity of a utility stock. (This is the reason why some of the Texas utilities, that do not appear on the table, are so popular.)³ This factor reflects, in large degree, the ability of the management to convert increased revenues into larger share earnings. Freedom from stringent regulation also helps.

But leverage is still an important factor, and some

1953 Revenue Increase over 1945		
Rank	Company	% Increase
1	Arizona Public Service	257
2	Florida Power Corporation	231
3	Tucson Gas & Electric	220
4	Southwestern Public Service*	205
5	Florida Power & Light Company	187
6	Long Island Lighting Company	180
7	Idaho Power Company	176
8	California Electric Power	170
9	Tampa Electric Company	161
10	Public Service of New Mexico	160
	Average: All companies	116

*Year ending August 31, 1953.

growth companies have been handicapped by the necessity of raising their equity ratios to a "respectable" level, say 30 to 35%. This has meant dilution of earnings from equity financing, in excess of growth requirements. Other growth companies have been able to satisfy stockholders with low dividend payouts, thus retaining larger earnings for reinvestment, with the effect of reducing the amount of equity financing—Florida Power & Light is an example.

6. Latest earnings figures are, of course, of prime importance in the trend of stock prices. Future estimates, which some utility managements are willing to divulge, are naturally of interest, particularly if they reflect any change in trend. Since so many executives are now willing to release their budget estimates for the coming year, the practice should become more general — subject of course to the usual hedging.

7. The question of the relative statistical importance of dividends and earnings as a price determinant has probably never been investigated statistically, but would make an interesting study. My opinion is that dividends count about twice as much as earnings, on the principle that "a bird in the hand is worth two in the bush."

However, it seems doubtful whether this would apply to growth companies, with whom the discounting of future growth appears to be paramount. Also, if a dividend increase is known to be in the offing, it is frequently discounted in advance rather fully. The historic dividend record is probably an investment factor, but it does not carry much weight with speculators who are interested mainly in the future.

8. The character of the business is occasionally a factor. Hybrid companies are not always well regarded since they are more difficult to analyze. If part of the business is transit, this is unfavorable. When gas business is important, there may be special problems. However, where the gas service has grown rapidly and profitably, as with Public Service of Colorado and Consumers Power, this is, of course, a plus factor.

9. If electric revenues are heavy in industrial business, this is sometimes a moderate handicap. For stability and growth, investors usually prefer heavy residential and rural business, as, for example, with Long Island Lighting and the Florida companies. Large industrial business raises problem of the business cycle, although companies like West Penn Electric and Duquesne Light proved in 1954

that they were not vulnerable to a temporary letdown in steel and coal activity.

10. The equity ratio is important from an investment angle since it reflects the utility's financial standing. If one assumes a normal amount of preferred stock, a high equity ratio means a conservative debt ratio and a good Moody rating for the company's bonds. This in turn will mean better financing terms for future bond and preferred stock issues.

However, though this may help the investment standing of the stock, it may prevent the management from developing higher share earnings and dividends—which in turn detracts from speculative interest in the common stock. It may also mean lower prices realized for the common stock in equity financing. This is a problem for management.

Some utilities require a high equity ratio in order to balance high operating costs and low return on investment. Consolidated Edison has a high equity ratio of 42% but earns only about 5% on its investment and carries down 9% of revenues for common stock.

11. The varied effects of weather conditions, on either revenues or costs, have already been indicated in some detail. Warm winter weather seems to be almost a chronically adverse factor for the gas business, but, if a cold winter should come along, the electric utilities with substantial gas business should gain thereby.

A recent beneficiary of air conditioning was Central & South West, as a result of the record torrid wave in Texas. Use of the heat pump is gaining a foothold in some southern areas (principally in new homes, schools, and so on) and may prove a favorable earnings factor for local utilities.

Drought effects on hydroelectric operations are becoming less serious with the gradual addition to standby steam capacity in areas like New England. Droughts can be followed with the aid of the monthly *Water Resources Review*, issued by the Department of the Interior (Geological Survey). Storm effects on earnings are usually publicized; Florida Power & Light's substantial reserve for hurricane damage was not needed during the past year.

12. A book could be written on the subject of operating efficiency, but the average analyst is not an electrical engineer, though his occasional inspections of utility plants may give him a smattering of technical knowledge. Although stockholder reports are usually deficient, the annual statistical report gives full data on generating facilities and their age, the relative amounts of electricity produced by each unit (as well as purchased power), and the generating cost for each item can be easily calculated. Where new plants are replacing obsolete facilities or expensive purchased power, it may be possible to approximate the favorable effects on share earnings. The maintenance and depreciation ratio—the old yardstick is 15% of revenues—is of interest.

13. Little comment seems necessary on the special income account factors. The end of EPT has helped the earnings of some companies such as Houston Lighting and Florida Power & Light. Consolidated Edison has probably been hurt a little by rising New York City taxes.

Wage increases and pension costs are recurring problems.

Although amortization of 100.5 still has about five years to run for the average company with this charge, the end of the charge is worth watching for. The "interest on construction credit" is really an artificial bookkeeping item, and some analysts have become distrustful of earnings where this is a heavy factor. Tax savings due to fast amortization are becoming quite important from a cash angle (practically no utility now includes them in earnings) and will aid in reducing future equity financing.

14. As for the balance sheet setup, the careful analysts keep an eye on reserves as an indication of future stability. Intangibles are of importance mainly from the regulatory angle, that is, the extent to which the local commissions stress them; they are gradually disappearing. Equity ratios have already been discussed. Book value may be a slightly limiting factor on market price from an investment angle, but speculators are inclined to ignore it.

15. On construction and financing plans, no comment is required. The smart analyst tries to get "advance dope" on equity financing.

16. On regulatory conditions again a book might be written, since the regulatory situation differs in all the 48 states. The absence of a state commission has doubtless been very favorable in Texas (the state law mentions an allowable return of 8%), and municipal regulation has generally been lenient. In Florida, however, the new state commission proved much fairer than the old Pinellas County Board. Delaware finally installed a commission, and there is talk of setting one up in Iowa. However, Minnesota utilities seem to get along well without a commission.

In general, the commissions are divided between the "tough" and the "liberal." Much depends on the state law as interpreted by the courts. This applies principally to the rate base—whether determined by net original cost or by a "fair value" formula including net cost of reproduction (or by the latter item alone as in Ohio).

In so-called "fair value" states the commission usually allow a rate base somewhere between original cost and present-day cost, the proportion of the difference allowed indicating the degree of liberality. In the "original cost" states commissions have made some concessions to utility arguments about inflation, attrition, regulatory lag, and such, by allowing a higher return on the rate base, a year-end rate base, and so on, but often this was merely a gesture.

Although it is difficult for the analyst to determine the rate base without careful study of commission findings in rate cases, the return on net book value of plant (with some allowance for working capital) is of some aid in appraising the utility standing with respect to potential rate increases or cuts. In this connection, the importance of state politics on regulatory policy must not be overlooked—as, for example, the recent Democratic victory in Pennsylvania. It is especially important, of course, to follow the trend of pending rate cases, and it is a comparatively easy job for the analyst to gage the effects on future earnings of a favorable or an unfavorable decision.

All in all, the utility analyst has no sinecure.



Republic Steel

makes Stainless for Atomic Ashcans

Atomic energy is probably the greatest potential user of stainless steel equipment. It may already be the most greedy stainless consumer.

Even the smallest civilian laboratories using "hot" materials probably should have counters and sinks of stainless. The disposal systems for atomic waste and the ashcans in which the waste is buried are stainless steel.

Military demand for atomic energy has received so much publicity that we tend to lose sight of much civilian potential.

The backlog of probable demands for civilian atomic power provides a vast future for stainless steels. Republic is now increasing its stainless finishing capacity by 22,000 tons a year. Republic Steel is the largest manufacturer of stainless and alloy steels.

Republic Steel

General Offices: Cleveland 1, Ohio

Where diversification makes the backlog last longer

Railroads' Need: Analysts

PATRICK B. MCGINNIS

IT IS MY CONVICTION that our country's railroad systems will give a good account of themselves during the period just ahead. Heavier traffic, higher revenues, better control over operating expenses, increased earnings, and larger dividend payout are in prospect for 1955. I am equally confident that a united railroad industry, now at the threshold of a new era, will in the years ahead recover business unwittingly forfeited to competing forms of transportation, and thereby regain the pre-eminent position in mass transportation that it held a third of a century ago.

I am probably best known as a bull on American railroads, a bull from away back. Ten years ago, and twenty years ago, I devoted practically all my time to recommending the purchase of railroad securities. In those days, such securities were virtually sold by the pound. The Dow Jones railroad stock average ranged in the 'teens and the twenties.

During the intervening years, this railroad average has shot up to around 150. A very substantial portion of the gain has been made during the past year alone. So, at first blush it might seem that McGinnis is rashly crowding his luck when at this stage he reaffirms his faith in the future of our Nation's rail carriers. Nevertheless, that is how it is.

I am mindful that many railroad stocks afford yields well above 6%, and dividends involved are protected by current earnings. What is more, for this generation, at least, prospects for earnings and for strengthening of the credit structure of our entire railroad industry never were more promising than at present.

CHANGES IN SIGHT

There is reason to believe that vast changes in the railroad industry lie ahead. Inevitably, we shall find a realignment of operating patterns. We may likewise see significant changes in corporate patterns. Certainly, the initiative in railroad consolidation has passed from the Federal Government to railroad management.

At any rate, in the East, where railroading had its inception, there exists wide scope for increased transportation efficiency via consolidation. In the territory east of the Mississippi River and north of the Ohio River, there are 37 Class-I railroads. The duplication of administration expense and terminal charges inherent in such a polyglot pattern, with consequent impairment of operating efficiency, need not be stressed.

By the same token, absurd waste is involved in operation of 131 Class-I railroads scattered over the country. If our whole distributive system is to be brought into line with our highly developed productive system, then the necessity for sound integration of our transportation facilities cannot be escaped.

A great many of the ills from which railroads suffer could be corrected by the inclusion of analysts in railroad management. Analysts are men with an outside point of

view who are trained to examine objectively, to separate the wheat from the chaff, to weigh operating results dispassionately, to detect elements of weakness and of strength, to measure pros and cons, and thereby to determine and suggest a proper course of procedure.

By and large, unfortunately, analysts have been foreign to railroad management. Our rail carriers have relied on men of long experience in physical railroad operation.

Shackled to the past, tied to tradition, lacking in imagination, and inexperienced in objective analysis, they have applied 19th century thinking to highly complex 20th century transportation problems. Consequently, railroad problems of far-reaching importance have been dealt with on a pragmatic, piecemeal basis. As a result, opportunities to combat encroaching competition long were overlooked.

It was not until the 1930's that railroad management awoke in shock to the fact that competition had fast been overtaking the rails. The underlying significance and the implicit threat of the new competitive forces at work were not grasped until those trying depression years.

PORTENT OF PROMISE

Happily, there has been witnessed in recent years a portent of considerable promise in railroad affairs. A young, vigorous group of management men, with more than experience to offer, has emerged in some of our railroads.

They are determined that railroad management shall actually manage. They are bent on elevating railroad transportation to its rightful place in the scheme of mass transportation. They propose to restore railroad credit. Let us, then, regard our national railroad problem as these newcomers depict it.

First of all, our national transportation system is one of the most important segments of our economy. Our country's industrial power was built on superiority of transportation. No other segment of our economy has a greater influence on the costs and profits of the average corporation. No other segment makes a greater contribution to our national well-being.

RAILROADS SUPERIOR TRANSPORT MEDIUM

No other kind of transportation can effectively take the place of railroads on a basis of true economy, all-costs considered. Our railroads provide the high-volume, low-cost transportation service on which highly developed agriculture, industrial mass production, and nation-wide distribution and consumption depend. They perform annually about 600 billion ton-miles of intercity freight service. This is three times as much as is produced by any other form of domestic transportation. In addition, they carry nearly half of the intercity commercial passenger traffic in the United States.

No other agency offers a general, common-carrier transportation service that undertakes to haul anything, for any-

body, in any quantity, in any season of the year, to and from any part of the United States. No other agency in periods of crisis is so able to expand its capacity without proportionate increase in its use of either man power or fuel. The railroads can accomplish this by putting more tons in cars, more cars in trains, and more trains on the tracks.

The unit cost of railroad transportation decreases as the number of units of transportation increases. This flexibility and expansibility of capacity which is made possible by the technological advantage of a flanged metal wheel rolling on a steel rail, makes strong and healthy railroads vital to the Nation. Railroad freight ton-miles were increased nearly 100% during World War II with only a slight increase in available equipment.

Increases of truck ton-miles are paralleled quite closely by increases in available trucks. On a comparatively small increase in tonnage, a transport operator must obtain another truck and another driver.

Railroad passenger-miles were increased nearly fourfold during World War II from the 1936-40 average with a decrease in equipment and attendant facilities. Yet, a considerable increase in the supply of buses was required to effect a smaller ratio of increase in bus passenger-miles.

RETROGRESSION SINCE WORLD WAR I

Notwithstanding its proven natural advantages, railroad transportation has lost ground, relatively, during the past quarter-century or more. Until the 1920's, except for the rivers, the industry enjoyed a virtual monopoly in transportation. But today the private automobile, unknown at the turn of the century, accounts for 90% of our intercity passenger-miles. Air lines, buses, and railroads must grapple for the small remainder. Moreover, competition of trucks, contract carriers, private carriers, barges, and pipe lines has reduced to only about 50% our railroad's share of freight movements.

Practically all this decline has been witnessed since World War I, when the rubber tire came on the scene, and much of it has taken place since World War II, when America took to wheels on a grand scale. As a result, we experienced in 1954—virtually a boom year for our economy generally—a sharp decline in railroad traffic volume, a precipitous drop in railroad earning power, and an indicated net return for the year of only about 3% on our huge investment in railroad plant. This condition is witnessed, in spite of the more than \$10 billion spent by our railroads since World War II for additions and betterments. These outlays are designed to attract increased business to the rails.

ANALYTICAL APPROACH DEFICIENT

Let us note a few aspects of the continuing sad failure of our American railroad industry, especially in its analytical approach and procedure. Although our railroads are required by the Interstate Commerce Commission to keep accounting records in great detail, the information thus collated is not utilized to the best advantage.

For example, practically every railroad solicitor, even up to the traffic vice-president, still talks in terms of number of cars that the road receives from any particular shipper.

This, of course, is the best offhand estimate that can be made of the shipper's value to the railroad. But the investigation is not always pursued to the point of ascertaining the average revenue per car, the average number of tons per car, and other factors that enter into the real value of the revenue obtained from the shipper!

All analysts appreciate that the need for accurate cost studies is imperative if any substantial readjustment in freight rates is to be made for the purpose of recapturing business from trucks. If such rates are to be based on the cost of service, as they should be, rather than on the value of the product, as they actually are, then it follows that the cost of service must be known beyond peradventure of doubt. Rates cannot be based on cost of service unless our railroads have accurate methods of determining and allocating their costs.

Today, the railroad calculates its actual out-of-pocket freight costs of the individual operation. In most instances, however, these out-of-pocket costs may be not more than 76% of the total cost. Consequently, there must be devised some sensible method of allocating all costs that are not demonstrably out-of-pocket. Otherwise, a rate-making system based on cost goes haywire.

Either the railroad uses the increment theory to a reductio ad absurdum, accepting all traffic that shows a little more return than out-of-pocket costs, and winding up with a deficit because of inability to collect costs other than out-of-pocket, or the railroad tries to obtain from every segment of the traffic too much of a contribution to the latter costs, and thereby loses that traffic on which the trucks or other competitors can make a better rate. The railroad traffic manager talks vaguely of "average" costs and accepts without understanding the so-called "costs" provided by research and operating departments.

SCOPE FOR PROGRESS

There are many examples of the absence of precise, analytical policy in railroad management in this analytical age. Outside analysts are familiar with them. They attest to the vast scope for progress in railroad transportation in the years ahead. In them also lies a clue to the investment opportunities afforded by railroad securities.

It would be gross oversimplification to maintain that the Government, through regulatory policy or lack of regulatory policy, has been exclusively responsible for the serious deterioration of the position of the railroad as an instrument of mass transportation. As a matter of fact, railroad management, relying solely on experience gained under entirely different conditions of another transport age, has blindly invited many of the troubles now resting on its doorstep. The combined efforts of these two enlightened parties are necessary to the correction of the situation. And I would repeat that skilled, penetrating analysis will be required by both parties if the desired end is to be attained.

Let us view some of the many things that our railroads themselves can accomplish if, united, they will diagnose their problems with common-sense, hard-headed analysis. Take, for instance, the tools with which we work and note the vast latitude available to our railroads in insuring their own destiny, without benefit of Congress or its regulatory agencies.

TOOLS OF TRADITION

First, there is our rail, 39 feet in length, one of the many tools of tradition. Since our country's railroads comprise nearly 800,000 miles of rails, we have approximately 108 million individual rails. At each joint we have 2 fish plates with as many as 6 bolts, 6 nuts, and 12 washers. A possible trouble spot, each joint may minimize riding comfort. Each bolt, nut, and washer is an added risk. Fifteen per cent of track maintenance cost is traceable to the repair of joints.

Why do we have 39-foot rail instead of 39-mile rail? Why not have welded rails? Simply because we had 39-foot rail many years ago! It seems apparent that the length of rail was determined on the basis of the length of the flatcars that handled it. In other words, railroad management still relies on experience, not analysis. But the New Haven Railroad will not purchase any more 39-foot rails, and I am confident that other systems will adopt our policy in this respect.

What about the draft gear? Here is a sixty-year-old instrument which is responsible for jolting us in our most modern passenger-train equipment and for causing annually a good part of the more than \$200 million damage to freight in transit. Yet, with up-to-date shock absorbers, our largest air liners can be landed smoothly at a speed of 90 miles per hour. Why must railroads complacently settle for antiquity in draft gear? Must we maintain this method now, simply because we were not sufficiently alert to abandon it thirty years ago?

Then, there is the matter of our freight-car axles which are little different from the wagon axles used in Caesar's time. We still have our friction bearing, and a consequent daily toll of "hotboxes" which swells transportation costs, delays deliveries, and diverts traffic to competitors. A 100-car train can be delayed for hours because of a hotbox on a single car.

Of 1,800,000-odd freight cars in domestic service, only about 10,000 are equipped with roller bearings. Co-operation among railroads could quickly do away with this railroad freight plague. This co-operation is vitally necessary because freight cars must be kept fully interchangeable. Consequently, all railroads must outlaw unwanted cars in interchange.

Railroad refrigerator cars in their present form are another possession in which American railroads cannot take pride. Even in this modern age we have nearly 250,000 "grandmother's iceboxes" rolling over our lines. Each requires loading and reloading with ice and salt, with consequent involvement of time, labor, and expense. As long as we continue to rely on such equipment, we cannot successfully compete with the highway trailer with its modern mechanical refrigeration equipment.

Signaling is another embarrassing subject. The New Haven Railroad last year installed 48 miles of centralized traffic control at a cost of approximately \$850,000 or almost \$18,000 per mile. With proper co-operation, it should be possible to order such equipment in quantity and install it at much lower cost than at present.

In the technological field, our railroads will further increase their interest in research in the years ahead, with a

view to developing better and more efficient ways of doing things. Special attention will be given to the electronic field.

PASSENGER BUSINESS FAILURES

What about passenger business which is the biggest of all bugaboos to railroad management? Probably this problem can best be explored by viewing it as it relates to the New Haven Railroad. From passenger service our railroad derives approximately 40% of its total gross revenues. It is a difficult problem, but it can be solved with the co-operation of communities served. It is being solved.

There are three types of railroad passenger business: the through, local, and commuting business. The future of the latter two (and, for the New Haven Railroad, of all three) will be conditioned on the availability of parking facilities at the railroad line—by a union of rubber and rail.

All New Haven Railroad main-line trains leaving and entering Boston stop at route 128, located on a circumferential highway 12 miles from the South Station in Boston. Thus, it is easily accessible to the entire metropolitan Boston area. Today 500 automobiles can be parked at that location, which will be expanded to accommodate 5,000 cars.

Similar facilities will be located on our lines on the outskirts of New York City. These facilities will be easily accessible to the entire metropolitan New York area, including Westchester County, lower Connecticut, Long Island, and northern New Jersey. Recently, facilities suitable for parking 2,000 cars were established at a location on our lines at Providence, R. I., and like facilities will be set up at other points.

In this way will be provided parking facilities to attract to our lines millions of new patrons. And in this way can be eliminated fifty-year-old passenger stations which no longer are functional.

What is true of passenger stations along the lines is true also of our huge terminals in Boston and New York. Both the South Station in Boston and the Grand Central Terminal in New York, built just after the turn of the century, afford opportunity for judicious development, which should mean far greater convenience for railroad passengers and, consequently, greater income for the railroads.

HIGH CAPITAL COSTS

In its passenger business, the New Haven Railroad competes with the private automobile. In comparing passenger travel by rail with travel by automobile, it must be borne in mind that the automobile can comfortably accommodate four or more persons. At an automobile operating cost of eight cents a mile, the cost per person is only two cents, or far less than the 3.37 cents per passenger-mile which the New Haven Railroad charges.

Underlying our 3.37 cents charge is the high cost of acquiring and operating passenger equipment. Our train, with power, represents a capital cost of approximately \$3,000 per seat. This means that four persons in the train utilize \$12,000 worth of equipment, compared with \$3,000 worth of equipment if they travel by automobile. It fol-

lows, therefore, that the railroad must drastically reduce capital costs if it is to compete successfully with the private automobile. This cost reduction is being effected.

LIGHTWEIGHT TRAIN

Last July, the New Haven Railroad took the wraps off a lightweight, low-center-of-gravity model train, which had been lying dormant in a shop in Berwick, Pa., and then operated it along its lines and exhibited it to hundreds of thousands of persons at many communities. Trial runs were completed between New Haven and Boston for the press, for security analysts, for community leaders, and others.

This low-slung train, similar to models that have been operating continuously in Spain for nearly five years, is 75% lighter in weight per passenger than equipment now used on our road's crack passenger trains. Moreover, the passenger traveling in it is seated 18 inches above the rail, in contrast with the nearly 5-foot height on present standard equipment.

Thanks to this combination of light weight and low center of gravity now common to automobiles, the train negotiated with ease, at speeds approaching 100 miles per hour, curves that can be negotiated by present standard equipment at a speed no greater than 60 miles per hour. It does not require engineering genius to understand what this means in terms of running time.

The New Haven Railroad has on its New York-Boston line 142 curves which cannot be negotiated comfortably with conventional equipment at speeds as high as 70 miles per hour. Compared with this, the Pennsylvania, on its similarly long New York to Washington run has only 27 such curves, of which 20 are located at points where trains are either entering or leaving stations, and thus are traveling more slowly. Most of the New Haven's curves, well over a hundred of them, are located in the country, where trains would be doing 90 except for the curves.

The new lightweight train can travel between the outskirts of Boston and New York City in $2\frac{1}{2}$ hours. In addition, it provides comfort unmatched in present, high-center-of-gravity, heavyweight trains. Moreover, these lightweight trains are much cheaper to operate.

Last, but not least, the new train represents low capital cost. As a result of our experimentation, the cost of such a train has been reduced to the equivalent of \$1,000 per seat, which is in line with the per-seat capital cost of the private automobile with which the New Haven Railroad competes. Three leading railroad-equipment makers have submitted quotations on such equipment, and a fourth builder may be expected to do so.

LATITUDE FOR PROGRESS

What does this mean in terms of passenger travel on the New Haven Railroad? Passenger travel can be increased sharply. The number of passengers as well as the number of trips made by the individual passenger can be multiplied.

Our road serves a population of more than 30 million, with a higher-than-average per-capita income. Last year it carried only about 17 million persons, exclusive of commuters. Since we should carry our entire population more

than once, the 17 million figure should be doubled or trebled. Given this, passenger fares could be reduced to 2 cents per mile, which, in turn, would induce even more railroad travel.

To determine its potential commuter load, the New Haven Railroad recently embarked on an extensive survey. Although this has not yet been completed, the study has progressed sufficiently to indicate that we can increase our business substantially. We intend to do so. We can carry 120 persons in each of our 100 new, luxurious, air-conditioned, stainless-steel, multiple-unit commuting cars which cost \$175,000. In a train of ten coaches we can carry 1,200 persons. Making use of such advantages, we could capture practically all mass commuting.

A COMMUNITY PROBLEM

No serious over-all attempt has been made to approach our transportation problem as a community problem, and not the problem of a specific railroad, air line, automobile owner, highway trucker, or even a single municipal transit authority. Yet, not until we kindle the interest, engage the co-operation, and co-ordinate the efforts of all these interested parties can we hope to resolve our transportation problem on a sound, enduring basis.

Since my election last April as president of the New Haven Railroad, I have been reiterating this truth. Fortunately, public consciousness of it is spreading. This is indicated in the opinions expressed last December by Charles H. Tuttle, chairman of the Metropolitan Rapid Transit Commission (New York-New Jersey), together with the subsequent constructive editorial comment on his views of the critical condition of transportation in the metropolitan area. In my mind, this spreading public interest in the plight of our railroads will shortly bear fruit.

Other means have been adopted to increase passenger travel on our railroad. A family-fare travel plan inaugurated last September stimulated travel, as did the institution in November of a "Ladies' Day" plan, providing for a round trip on two days of the week between New York and outlying communities, at one-half the normal fare. Other revenue-producing projects have been instituted, and still others will be offered.

To be sure, progress has been made in recent years in railroad operation. But what has been accomplished merely points the way to the ground yet to be covered. Billions must yet be spent for reducing grades and curves, Diesel locomotives with increased power, improved freight and passenger equipment, mechanical retarder yards, centralized traffic control, and other betterments too numerous to mention.

These are some of the many things that progressive railroad management can do, by and for themselves, without sanction of the Interstate Commerce Commission or any other regulatory agency. They are typical of the things that can be done to strengthen the position of the railroad after its problems are thoroughly analyzed. They can be done only by management that refuses to believe they can not be done simply because they have not been done in the past.

There are other difficulties which the individual railroad

can overcome only with the co-operation of other carriers and by intercession with the Interstate Commerce Commission or Congress. These difficulties relate largely to the all-important rate-making function. The railroad can attract the maximum tonnage only if it can price its product adequately.

The railroad can carry 5,000 tons of coal on one train with one crew of five or six men and a 5,000-horsepower locomotive. It would do so if it could attract the business by establishing a trainload rate. No other transportation medium can match this. But the pity of it is that the railroad cannot make bulk trainload rates. Instead, it must make single, carload rates. It is a bulk carrier; but, in contrast to the policy pursued in progressive industries, it must make retail (carload) rates.

The Water Carrier Bill passed in 1940 provides: "Water carriers are exempt if they carry only three commodities." As a rule, they carry no more than three—oil, sulfur, and coal. So, they are exempt from the strangulation that the railroads must endure.

As a result, millions of tons of coal shunted into New England year by year are moved in barges which are not regulated, and the New Haven Railroad which is regulated cannot compete for it. If railroads were permitted to make trainload rates, shippers would benefit from the generally lower level of rates.

Countless similar instances applying to all sections of the country could be cited. It is my conviction that this unfair, uneconomic discrimination against the Nation's rail carriers will be eliminated, and in the not distant future. In my opinion, the day is not distant when the railroads will be granted their lawful rights to sell their services on a trainload basis.

RAILROADS DISCRIMINATED AGAINST

Then, there is the problem of the contract carrier. Trucks can make contract rates on tonnage. The railroads do not know what those rates are. Knowing railroad rates, the contract carrier can make a secret agreement with a shipper, go out and buy a truck, and set himself up in business.

The New Haven Railroad is a carrier, as are our other railroads, but we cannot now make contracts. We cannot compete with our so-called competition. I am convinced that Congress will be persuaded to permit us to make contracts just as railroads in Canada, England, Germany and other countries.

The exempt carrier constitutes another inexcusable discrimination against the railroad. A section of part 2 of the Interstate Commerce Act excludes from regulation motor carriers hauling agricultural commodities and fish which over the years have been extended to a long list of food products.

The exempt trucker not only takes fish and farm products to market, but returns with a full load of miscellaneous commodities, thanks to the ingenious device of "trip leasing" by which the gypsy trucker leases himself and his equipment to someone else. The fly-by-night exempt trucker, rather than the farmer and fisherman, has become the principal beneficiary of this exemption clause. Railroads lose. Our Nation's transportation efficiency loses. I have reason to believe that this situation will be corrected.

Among other media that discriminate unduly against the railroad is the private carrier, the child of the commodity clause in section 1, part 1, of the Interstate Commerce Act. Under an outmoded provision adopted back in 1905, the manufacturer is permitted to go into the transportation business, becoming both shipper and carrier, at one and the same time, but the railroad is prohibited from competing with him in his business.

The private carrier can ship his products to a distant point and bring back other commodities. The commodity clause applies only to part 1 of the Interstate Commerce Act, which part relates to railroads. It does not apply to parts 2 and 3 which relate to motor carriers and water carriers, respectively.

REMEDIAL ACTION IN PROSPECT

These and other absurdities in our national transportation policy have been responsible for restricting railroad earning power and weakening the credit of American carriers. But, in perpetuating wasteful practices, they weaken also our entire transportation structure. Consequently, they affect adversely our national economy, and they undermine what has proved to be one of our foremost instruments for peacetime progress and for survival in periods of national emergency. I believe that Congress will see it in this light when the facts are properly presented.

It may be noted that I do not mention the ugly word "subsidy." For years the American railroads have been storming from public platforms and in public print about subsidization of competing forms of transportation: chiefly air lines and motor carriers. What has been the result? More subsidies for airports and larger city, state, and Federal expenditures for highways! Obviously, this is not the proper course.

The railroad does not require subsidies. Subsidy is not its most serious problem. Nor does the railroad seek regulation of competing forms of transportation. What it seeks is freedom from the strangling regulation from which its competitors are free. The present prospect of accomplishing this end, with the aid of a sound analytical approach to all railroad problems, builds optimism in the outlook for American railroads, for railroad analysts and railroad shares.

* * *

1866 . . . July . . . Atlantic Cable laid.

August 1 . . . Armistice.

September 26 (or 27) . . . Treaty of Peace, Austria-Italy.



The most far-sighted sentry in history!

THE bulging fin that rides the back of the huge new Lockheed Super Constellation supplies an important missing dimension to U. S. Air Force airborne radar patrols—the ability to spot the *altitude* of enemy planes at a distance of hundreds of miles.

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The genius of this new Philco airborne radar lies in its combination of high power with a sharply defined image at the longest range of any radar of this type ever developed. And the solution of this problem for the Armed Forces is the latest milestone in Philco electronic developments for national defense.

It is also another striking example of the unique integration of Research with Application that gives Philco its dominant position in so many industries—Radio, Television, Air Conditioners, Refrigeration, Freezers, and Electric Ranges.

And the end is not in sight!



ANOTHER FIRST FROM PHILCO RESEARCH

A New Market Opportunity for the Air Conditioning Industry

Helping Management Put New Profit in Older Buildings with Air Conditioning

DONALD C. MINARD

ON THEIR LIST OF "things to buy," the owners of America's large office buildings today are placing air conditioning second only to the normal maintenance item of paints.

This finding, in a survey by a leading management magazine, signals one of the most spectacular marketing opportunities of the next ten years for the air conditioning industry — the air conditioning of large existing buildings such as office buildings, hotels, apartments and, in fact, commercial and public buildings of many types.

It is a market as tremendous as that for the complete, year-round air conditioning of homes and, in many ways, more exciting because of the problems it has presented and the manner in which those problems are being solved.

THE SURVEY

The survey which disclosed the new scope of this market asked owners and managers of large commercial buildings from coast to coast what items they planned to buy during the next 12 months for maintenance and modernization. On the list of 54 items they named (ranging from paints to mop wagons, window shades to bird-repellent devices) here are the top two:

Paints and varnishes, named by 61.5%.

Air conditioning, named by 55.9%.

The fact that air conditioning—which, in a large building, may call for an investment in seven figures—ran second only to the everyday maintenance item of paints reflects the seriousness of management's plans to modernize in order to obtain new profit from older buildings. It also represents a choice that more and more owners are facing—between modernization at a profit and obsolescence at a loss.

For, although vacancies are still relatively low—in New York, for example, prime office-space vacancy is only about 1%—they are beginning to ease up after years of flourishing business.

COMPETITION IS SETTING IN

Competition is setting in: 54 new and fully air conditioned buildings in New York City since World War II; five new buildings in Pittsburgh; new buildings in Philadelphia, Chicago, and other cities. Air conditioned as a matter of course. So the older structures, which often have more desirable locations, are looking to modernization to keep desirable tenants—and obtain the higher rentals that air conditioning justifies.

All it takes is one outstanding example of a large building, fully air conditioned, in any major city to start the competitive buildings on the same road.

That is why another survey showed results like these:

A. 86% of building managers and owners report a growing demand from tenants for air conditioning.

B. 66% say they must air condition their buildings *now* in order to keep them competitive.

For the air conditioning industry's future, the implication is clear. Faced with such an opportunity, the industry has years of vigorous growth ahead before, in the life cycle of business, it even reaches middle age. In addition to providing air conditioning for virtually every new major building in this category, the industry is also ready to condition an ever-increasing number of older structures—and is doing so. It is overcoming many of the equipment problems that have made some owners hesitate and "wait and see."

For example, the existing building often lacks room in the basement for the air conditioning refrigeration compressors. When the owner looks at an alternative, placing the compressors on upper floors or the roof, he begins to wonder about *weight* of the equipment, and whether he must also undertake costly reinforcement of the building. He wonders, too, about noise and vibration of such machinery disturbing tenants. And he asks whether it is not possible to install air conditioning floor by floor, to avoid disrupting all his tenants from top to bottom at the same time.

PROBLEMS SIMPLIFIED OR ELIMINATED

Today many such problems have been greatly simplified or eliminated. New developments in air conditioning equipment have made the difference.

As an illustration of what has been happening, the Trane Company has developed a centrifugal compressor, The CenTraVac, that can be installed easily on upper floors or roofs, and can be set on any level floor strong enough to support its weight. Hermetically sealed, the compressor has few moving parts, and is so quiet you can converse in a normal tone beside it while it is operating at full capacity. It is virtually free of vibration. In fact, you can balance a coin on edge on top of the machine while it is running. Besides simplifying installation, such equipment obviously will not disturb near-by tenants, a matter of prime importance when it is located on upper floors or roofs.

Automatic capacity control of the modern compressor also has lightened the problem of air conditioning, floor by floor, to avoid upsetting tenants. On the CenTraVac, for example, the control automatically starts and stops the machine, and automatically adjusts its use of power from 100 to 10% of capacity in almost direct proportion to the cooling load.

What this means is that, in addition to freeing an operator for other supervisory duties, the automatic control makes it more *economical* to air-condition floor by floor, because the compressor can be installed at the outset—with ample capacity for the *completed* job. And then, with certain systems, the air conditioning can proceed floor by floor; yet the compressor uses only the *power* necessary to supply the *cooling* that is needed in the completed portion.

This is an example of the new, improved equipment that the industry is manufacturing to meet the new challenge. By making air conditioning simpler to install and operate, the industry is helping to create its own markets. As a *creative* industry, it is growing faster than population trends—*exactly* how fast is difficult to say because industry-wide figures are still far from complete. It is at least accepted that the industry has grown several times faster than the national economy since World War II.

THE TRANE COMPANY

One indication of industry expansion is the growth of the Trane Company. Its sales have increased from \$13.8 million in 1946 to \$45.5 million in 1953, or about 229%, and 1954 sales were expected to be about \$50 million, which would be equivalent to an increase of about 260% over that period. During that time, sales have climbed each year anywhere from 7 to 51%, with an *average* annual increase of 19%.

Along with higher sales, the industry has reduced prices. The Trane Company was able to reduce prices around 8 to 10% last year, on some of our major lines, in the face of higher labor costs.

This was accomplished in several ways: by introducing more automatic machinery in manufacturing, by continuing to improve plant layout and materials-handling methods, and by participation in the trend toward more and larger "package" units, by means of which more and more work is done in the factories, and less and less on the job sites. This last trend exemplifies one more way in which the air conditioning industry is reducing costs, increasing quality, and helping to bring air conditioning to more and more people.

The fact that the industry is research-minded is hastening its progress. Constant research is vital on hundreds of facets involved in developing new equipment. An il-

lustration of the scope of research may be found in the new Trane research and testing laboratory dedicated last May in La Crosse, Wis.

One of the largest laboratories in the United States devoted exclusively to the science of heat exchange, it is equipped to do a broad variety of painstaking measurements involved in a complex science. It enables pre-testing equipment designed for use anywhere from the Arctic to Equator. And among the projects before it is aid in the development of the new year-round air conditioner for tomorrow's homes.

Here, as in the air conditioning of large buildings—both new and old—the industry is progressing rapidly, to put air conditioning within reach of the average American. One conditioner now emerging from the experimental stage is designed to be much more compact than those presently on the market, and to sell for perhaps only \$350 or so more than a good central residential heating plant sells for today. Thus it could be within the reach of a man earning \$3,500 a year.

FUTURE HOME AIR CONDITIONER

At the moment, it seems probable that this home air conditioner of the early future—probably two or three years hence—will deliver the conditioned air through plastic ducts only 3 or 4 inches in diameter, ducts that are pre-fabricated and pre-insulated. The air will race through these ducts at perhaps 30 miles an hour, fast enough to blow a whistle so it could be heard miles away. Yet it will be discharged into the room so silently that you never hear it, owing to a new diffuser with which the laboratory is experimenting.

The market for these conditioners—for the industry's entire output—is staggering. It has hardly been scratched. Fewer than 1% of America's homes have air conditioning the year round. And the flood of room coolers has only given people a taste of what is to come, has only whetted the appetite for *complete* residential air conditioning.

There are other markets, too, that can be expected to contribute a growing volume to the air conditioning industry's future. Factories, although now generally air-conditioned only when needed for process work, may some day be conditioned for comfort to improve employee productivity.

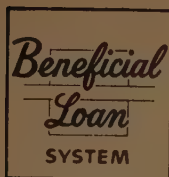
Schools, now generally closed during the summer, are more and more considering year-round sessions to help solve the crowding problem. Hospitals and other public buildings are turning to air conditioning.

The broad picture shows only one road—and that leads upward. The future is bright for the industry and for air conditioning products for engineered installations.

* * *

1867 . . . March 14-15 . . . Slump in Railroad shares in London.

July . . . last week Atlantic Cable broken.



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is for a beneficial purpose”*

For many people the word Beneficial has a personal, intimate meaning—friendly financial aid readily available in time of need. Families are thus enabled to pay old bills and relieve current financial stress.

This stream of consumer credit—originating in 860 offices of the Beneficial Loan System and amounting to over half a billion dollars annually—flows and spreads into the channels of commerce, thus helping merchants, manufacturers and professional people in thousands of communities throughout the United States and Canada.

In this way a BENEFICIAL loan helps many people—perhaps you. And that’s what we mean when we say “a BENEFICIAL loan is for a beneficial purpose.”

Beneficial Loan Corporation

BENEFICIAL BUILDING, WILMINGTON, DELAWARE

Subsidiary Loan Companies: PERSONAL FINANCE COMPANY . . . BENEFICIAL FINANCE Co.
COMMONWEALTH LOAN COMPANY . . . WORKINGMEN’S LOAN ASSOCIATION, INC.

1902 It all started near the turn of the century when Marquette Cement Manufacturing Company was organized with one small cement plant at Oglesby, Illinois. Several years of expansion resulted in . . .

Annual producing capacity 1,752,000 barrels

1930 After further rebuilding and enlarging the original plant, Marquette started paying dividends in 1910, and in 1923 acquired a second plant at Cape Girardeau, Missouri . . .

Combined capacity . . . 5,783,000 barrels

1940 Then came the building of distribution centers at Memphis and St. Louis, establishment of a barge line, and in 1940 the acquisition of a plant at Des Moines, Iowa . . .

Combined capacity . . . 6,783,000 barrels

1947 The producing plants of Hermitage Portland Cement Company and Cumberland Portland Cement Company were purchased, at Nashville and Cowan, Tennessee . . .

Combined capacity . . . 8,545,000 barrels

1951 Expanding southward and now going strong, the company built a completely new producing plant at Brandon, Mississippi—the first and only cement plant in that state . . .

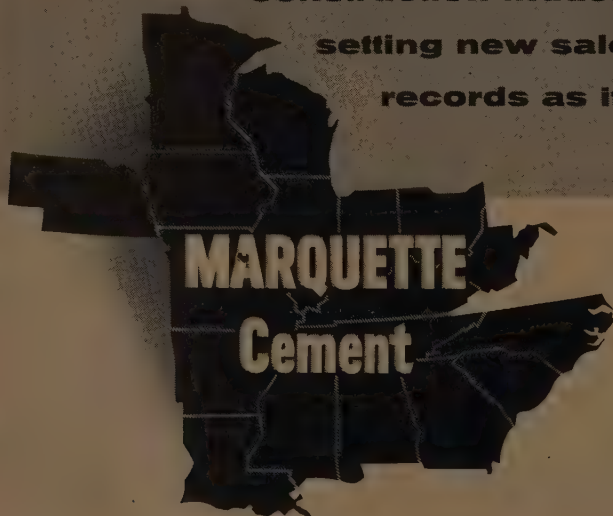
Combined capacity . . . 10,145,000 barrels

1954 Broadening its market for still greater sales volume stability, Marquette acquired and upped the capacity of two more plants, at Superior, Ohio, and Rockmart, Georgia . . .

Combined capacity . . . 13,600,000 barrels



**Today MARQUETTE is one of America's
major cement producers, serving the
construction industry in 18 states and
setting new sales and earnings
records as it continues to grow**



Operating eight cement
producing plants in Illinois,
Iowa, Ohio, Missouri, Georgia,
Mississippi and Tennessee.

Construction: a Forecast

JOHN M. MITCHELL

THIS FORECAST for the construction industry over the next few years is so optimistic that it almost casts doubt on the method of analysis. It is true that statistics cannot describe every aspect of an industry and that its techniques may place the emphasis on the wrong places.

But the very simplicity of the analysis used here makes it difficult to find much fault with the conclusions. Some, although modifying this degree of optimism, will have to agree that postwar construction is likely either to make new records or to maintain present levels for the next two or three years at least.

The record for the last thirty-five years indicates that total construction activity has not yet reached an over-extended position and that greater outlays appear reasonably assured. Such, at least, is the conclusion if the eleven post- World War I years, 1919-29, are compared with the eight post- World War II years, 1946-53. Moreover, the inclusion of 1954 does not materially alter the force of this statement.

Indeed, if account is taken of the higher standard of living and larger investment per capita achieved in this span of years, present levels of activity are certainly not high. The rise of income for millions of persons and the favorable credit terms for buying real estate have placed many persons in a position to buy their own houses. Furthermore, the trend toward greater mechanization and more production and transportation per capita and the increased need for power in many forms have required more elaborate and more massive construction than in the past.

TOTAL CONSTRUCTION ACTIVITY

Total construction activity includes every phase of construction and for 1953 had a value of \$49.5 billion. This represents almost 14% of gross national product for that year, which had a value of \$365 billion.

In fact, construction is so large and covers such a wide variety of activities that it is seldom treated in its entirety. Because of this, it is customary to separate it into three divisions: new private, new public, and maintenance and repair.

In 1953 new private construction had a value of \$23.9 billion, new public construction \$11.4 billion, and maintenance and repair \$14.2 billion. These three classifications therefore represented 48, 23, and 29%, respectively, of total construction activity.

Particularly noteworthy are the facts that new private construction is less than half and maintenance and repair more than a quarter of total construction activity. In other words, maintenance and repair had a value that was well over half that of all new private construction. These facts are stressed because it is often the practice to report the value of private construction or only a part thereof as an indication of the level of total construction activity.

While these three divisions of construction activity reflected general business conditions during the last thirty-five years, each division displayed certain irregularities peculiar to itself. Thus, in the main, construction and its three divisions expanded over five times in current dollar values between 1919 and 1953: Total construction activity increased 5.6 times, private construction 5.5 times, public construction 5.8 times, and maintenance and repair 5.6 times.

It so happened that in 1919 the relative values of the three divisions were almost identical with what they were in 1953. This explains the similarity in the growth patterns. But, on the other hand, there were times, such as the years 1932-36 and 1942-44, when the current value of new public construction exceeded that of new private construction. There were also times, such as the years 1920,

Table 1. Value of Total Construction Activity, New Private Residential, New Private Industrial, and New Private Electric Light and Power Construction, 1919-53
Millions of Current Dollars

Year	Total Construction Activity	New Residential	New Industrial	New Elec. Light & Power
1919	\$ 8,852	\$ 2,123	\$ 621	\$ 156
1920	9,726	2,281	1,099	262
1921	8,862	2,203	574	163
1922	10,600	3,479	467	229
1923	12,534	4,542	549	412
1924	13,779	5,193	460	463
1925	14,963	5,656	513	421
1926	15,823	5,737	727	362
1927	15,949	5,320	696	362
1928	15,606	4,926	802	338
1929	14,979	3,772	949	350
1930	12,599	2,182	532	377
1931	9,642	1,624	221	225
1932	6,099	654	74	109
1933	5,342	499	176	59
1934	6,646	661	191	66
1935	7,359	1,071	158	87
1936	10,270	1,641	266	139
1937	10,871	1,975	492	218
1938	10,840	2,069	232	267
1939	12,152	2,786	254	303
1940	12,775	3,130	442	311
1941	16,415	3,692	801	305
1942	18,649	1,850	346	255
1943	13,271	1,006	156	144
1944	10,541	923	208	163
1945	11,692	1,200	642	245
1946	20,016	4,424	1,689	443
1947	27,007	6,993	1,702	793
1948	33,409	9,318	1,397	1,058
1949	34,677	8,862	972	1,368
1950	40,448	13,437	1,062	1,268
1951	44,482	11,823	2,117	1,353
1952	47,074	11,850	2,320	1,650
1953	49,479	12,739	2,229	1,829

Sources: Construction and Building Materials, Statistical Supplement, U. S. Department of Commerce, May 1954.

Table 2. Cost of Construction Indexes

Year	Composite	Residential	Commercial & Factory	Public Utility
1919	106.0	93.9	89.8	87.0
1920	133.9	121.1	112.0	95.6
1929	106.7	102.0	96.0	89.0
1932	81.1	77.6	75.4	78.3
1939	100.0	100.0	100.0	100.0
1946	159.6	159.2	145.4	128.5
1953	250.8	247.5	232.1	216.2

1923-26, and 1946, when new public construction was less than one fourth of new private construction.

For practical reasons, as well as for purposes of more detailed analysis, it is advisable to consider certain parts of new private construction which are smaller than any of the principal divisions already referred to. Public construction, for example, is a matter of governmental decisions in response to local, state, and national needs; it is not necessarily undertaken because of any direct profit foreseen by the Government body in question.

In like manner, maintenance and repair do not deserve much attention here because they are a kind of outlay that goes on fairly regularly in good times and bad. But such kinds of construction as new residential, both farm and nonfarm; new industrial; and new electric light and power depend on business conditions, and are only undertaken when sufficient personal incomes and profits are assured.

THE LARGEST SUBDIVISIONS

Even though these three subdivisions together accounted for only \$16.8 billion, or 34% of total construction activity in 1953, they are individually the largest subdivisions that make up new private construction. These four series are presented in Table 1 for the past thirty-five years.

The comparison of these three divisions among themselves and with total construction activity shows quite divergent behavior, both in growth trends and in the intermediate movements. It has already been mentioned that total construction activity increased 5.6 times between 1919 and 1953. It will be observed that peaks were reached in 1927, 1942, and 1953 (or 1954, according to all indications).

The behavior of new residential construction was not very different from the behavior of the total. The former increased 6.0 times between 1919 and 1953 and made peaks in 1926, 1941, and 1950. But new industrial construction, however, increased only 3.6 times during these thirty-five years, and it vacillated more in response to general business conditions than the other series. Thus it made peaks in 1920, 1929, 1937, 1941, 1947, and 1952.

Finally, in decided contrast to the other categories of construction, much the greatest expansion took place in the electric light and power industry. It showed an expansion of 11.7 times in the thirty-five years covered, and reached construction peaks in 1924, 1940, and 1953. Needless to say, these comparisons between the growth trends of different categories of construction would be somewhat different if different years were chosen for these measurements of

growth. But the underlying characteristics would remain.

All the foregoing has been for the purpose of laying the groundwork necessary to appreciate the crucial part of the analysis. The construction industry has been looked at from several angles, and it has been found that it has put in an impressive showing since World War II.

On the other hand, if some statistical perspective is applied to the performance of the construction industry since the war, several revealing relationships stand out. When the statistical data are all reduced to dollars with 1939 purchasing power, and then further reduced to per capita construction values, the impressiveness of the original comparisons disappear. This kind of statistical deflation shows few, if any, records have been broken since the war, by the individual sectors of the construction industry, and that, until such construction records as were set over twenty years ago are broken, high and higher level construction may be expected.

FOUR SERIES DEFLATED

Only four construction series have been deflated, namely: total construction activity, new private residential, new private industrial, and new private electric light and power construction. In each instance, a different cost of construction index was used in order to convert the data into 1939 dollars.

These indexes are U. S. Department of Commerce composite, Boeckh residential, Boeckh commercial and factory, and Handy public utility. Examples of these indexes for seven key years are included in Table 2 for the purpose of showing the nature of the price changes involved.

It is evident that the cost of construction is a potent deflator, which shows increases in costs ranging from 136 to 163% over the thirty-five years covered. Moreover, it has also considerably more influence than population growth as a deflator.

Nevertheless, the latter is used in order to heighten the realism of the construction data. The population of continental United States, including the Armed Forces overseas, only increased by 53% during the thirty-five years, as can be seen from the selected years included in Table 3.

Both the effect of the increased cost of construction and of the increased population have been incorporated into the original data. The deflated data appear in Table 4. Besides the general flattening out of the several series, the values themselves are in dollars and not in billions or millions of dollars as in the preceding references to these data.

It is apparent that quite a different interpretation of

Table 3. Population of Continental U. S. Including Armed Forces Overseas

Year	Population
1919	104,500,000
1929	121,800,000
1939	130,900,000
1946	141,400,000
1953	159,600,000

these construction series is called for from that applied to the undeflated series. In the first place, the attention is shifted from the total amount of money spent to the physical volume of construction built. In the second place, the earlier table made comparisons between individual years in the past and those in the present, so that the postwar years appeared to shatter all previous building records. But, in the latest table, such comparisons between the years 1919 and 1953 or any other widely separated pair of years are not very meaningful in themselves.

Thus, if the year 1953 were compared with the year 1919, improvement in actual volume would be apparent in total construction activity, new residential and new electric light and power construction. However, new industrial construction in 1919 was higher per capita in 1939 dollars than in 1953.

On the other hand, if the year 1953 were compared with 1926, only electric light and power would be able to show an improvement. In fact, there have been quite a few occasions since 1919 when the per-capita value of construc-

Table 4. Value of Total Construction Activity, New Private Residential, New Private Industrial, and New Private Electric Light and Power Construction, 1919-53
Per Capita in 1939 Dollars

Year	Total Construction Activity	New Residential	New Industrial	New Elec. Light & Power
1919	\$ 80	\$21.6	\$6.62	\$1.71
1920	68	17.7	9.21	2.57
1921	75	20.9	5.78	1.71
1922	99	35.3	5.00	2.42
1923	104	40.4	5.18	4.32
1924	114	46.1	4.28	4.70
1925	123	49.8	4.72	4.21
1926	128	49.5	6.56	3.64
1927	128	45.8	6.27	3.66
1928	124	41.8	7.13	3.32
1929	115	30.4	8.12	3.23
1930	100	17.8	4.57	3.61
1931	83	14.3	2.03	2.19
1932	60	6.8	0.79	1.11
1933	49	5.1	1.82	0.58
1934	56	6.2	1.79	0.59
1935	64	10.3	1.50	0.77
1936	86	14.9	2.41	1.19
1937	84	16.0	3.98	1.69
1938	84	16.2	1.80	2.07
1939	93	21.3	1.94	2.31
1940	94	22.8	3.29	2.32
1941	110	24.7	5.61	2.15
1942	107	11.6	2.28	1.72
1943	72	6.0	0.98	0.95
1944	57	4.9	1.20	1.07
1945	61	6.0	3.47	1.56
1946	89	19.7	8.22	2.44
1947	98	25.1	6.90	3.68
1948	109	29.6	4.98	4.39
1949	112	28.8	3.38	5.26
1950	121	40.3	3.47	4.55
1951	121	32.3	5.93	4.22
1952	122	31.0	6.59	4.94
1953	126	32.2	6.02	5.12

Sources: Construction and Building Materials, Statistical Supplement, U. S. Department of Commerce, May 1951 and 1954.

Statistical Abstract of the United States, and Survey of Current Business, U. S. Department of Commerce.

Table 5. Average Values of Total Construction Activity, New Private Residential, New Private Industrial, and New Private Electric Light and Power Construction
Per Capita in 1939 Dollars.

Period	Total Construction Activity	New Residential	New Industrial	New Elec. Light & Power
1919-29 11 yrs.	\$105	\$36.3	\$6.26	\$3.23
1930-45 16 yrs.	79	12.8	2.47	1.62
1946-53 8 yrs.	112	29.9	5.69	4.31

tion in three of these series, in dollars of constant purchasing power, was higher than in 1953 or, for that matter, than in any postwar year.

This was so in 1926 and 1927 for total construction activity, in 1923-28 for new residential construction, in 1920 for new industrial construction, but on no previous occasion for electric light and power construction. It is therefore self-evident that, when only pairs of years are compared, these per-capita values of construction can be handpicked so as to produce a variety of conclusions.

This objection can be met by grouping the years into periods of high- and low-level construction. Even so, a certain arbitrary element is introduced in the borderline cases where high and low construction levels meet.

Obviously, the greater the number of years included, the less influence will the value of construction for one year exert on the average value of construction for the group. Hence, for groups of eight or more years, any one year will exert one-eighth or less influence on the average.

For the purpose of this forecast the most revealing and soundest presentation requires the breakdown of the data into three groups: eleven years of high-level construction from 1919 to 1929, sixteen years of low-level construction from 1930 to 1945, and eight or more years of high-level construction from 1946 to 1953 and beyond. Although it is almost certain that 1954 belongs to this last group, it has not been included because the figure is as yet only an estimate. The data in Table 4 are therefore presented in the groups in Table 5.

SHOW SOME IMPROVEMENT

First in order of importance is total construction activity, which did show some improvement between the periods 1919-29 and 1946-53. This in itself is a significant accomplishment and suggests that a peak has been reached in the postwar period.

But there have been many changes in the methods of the construction industry and in the specifications of homes, factories, commercial buildings, power plants, and roads, to name some of the principal branches of the industry, that suggest that present levels of construction as presented here are not so impressive. More efficient methods of construction, due to more and improved mechanization and the accumulation of experience, have made possible bigger, stronger, and more complicated structures and projects.

This trend towards greater efficiency and bigger and better buildings and plants for everyone certainly means that construction activity per capita should have a value in con-

stant dollars, since the war, considerably higher than that reached twenty-five years ago. The increase has been only 6.7%.

It is therefore concluded that an increase in the per-capita value of total construction activity in constant dollars of 6.7% between 1919-29 and 1946-53 appears unduly small. Consequently, the over-all construction forecast is that a much higher volume of construction can be looked for in the next few years, a volume that will place per-capita values in constant dollars well above the pre-depression level.

NEW PRIVATE CONSTRUCTION

New private residential construction has been at a lower average per-capita level since the war than it was twenty-five years ago. The reasoning that we have applied to total construction activity is even more cogent here.

The fact that residential construction per capita has declined by 17.6% between 1919-29 and 1946-53 could mean either of two things: (1) that there is very large unsatisfied demand for housing or (2) that postwar houses are smaller than houses built before the depression. It is safe to say that a combination of both factors probably explains the situation. In any event, a high level of residential construction appears assured for several years, short of some international catastrophe in the meantime.

(There is a strong temptation to relate the number of new permanent dwelling units started and the number of new households or families in nonfarm areas. In practice, however, it is not found feasible to arrive at the number of units which would represent the unsatisfied demand for new housing.)

THE AVERAGE PER-CAPITA LEVEL

The average per-capita level of new private industrial construction since World War II has been 9.1% below what it was in the eleven years preceding the depression. Whatever the precise reasons are for this decline, the forces

bringing it about were of a different character and of a different strength from those applicable to residential construction.

Again, however, the general interpretation of the situation is the same as for total construction. The statistical evidence indicates that there is a decided lag in industrial construction if earlier rates of growth are to be exceeded as they should be. The conclusion is, therefore, that higher volumes of new industrial construction may be expected before many more years have passed.

ELECTRIC LIGHT AND POWER

The exception in the pattern of postwar construction presented here is new private electric light and power construction. Because this last kind of construction increased by 33.4% between 1919-29 and 1946-53, it cannot be said that there has been underactivity. Moreover, electric power is so basic to the entire economy and participates in the expansion and development of the economy at so many points that high-level construction may continue for some years to come.

On the other hand, it cannot be concluded, on the basis of this statistical analysis, that a much higher volume of such construction is likely. That is to say that the further expansion of electric light and power construction is less promising than expansion of the other kinds of construction discussed.

CONCLUSIONS

To sum up the conclusions presented in the last several paragraphs, it is sufficient to rank the four classifications of construction according to the degree of expansion that each one faces over the next few years, assuming no major depression, as follows:

New private residential	Excellent
New private industrial	Good
Total construction activity	Good
New private electric light and power	Fair

YALE & TOWNE

DECLARES 267th DIVIDEND

50¢ PER SHARE



On Nov. 22, 1954, dividend No. 267 of fifty cents (50¢) per share was declared by the Board of Directors out of past earnings, payable on Jan. 3, 1955, to stockholders of record at the close of business Dec. 10, 1954.

F. DUNNING

Executive Vice-President and Secretary

THE YALE & TOWNE MFG. CO.

Cash dividends paid in every year since 1899

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January 26, 1955

The Board of Directors of the Company has declared the following quarterly dividends, all payable on March 1, 1955, to stockholders of record at close of business February 4, 1955:

Security	Amount per Share
Preferred Stock, 5.50% First Preferred Series	\$1.37½
Preferred Stock, 4.75% Convertible Series	\$1.18¼
Preferred Stock, 4.50% Convertible Series	\$1.12½
Common Stock	\$0.35

W. H. Jones
Secretary

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No Bonded Indebtedness

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1953 ... 1.80	
1952 ... 1.95	
1951 ... 1.95	
1950 ... 1.85	
1949 ... 1.80	← 1949—2-for-1 stock split
1948 ... 3.25	
1947 ... 2.40	
1946 ... 2.88	← 1946—2-for-1 stock split and rights
1945 ... 2.20	
1944 ... 2.20	← 1944—rights voted
1943 ... 2.00	
1942 ... 1.90	
1941 ... 2.15	
1940 ... 2.15	
1939 ... 2.05	← 1939—5% stock dividend and rights
1938 ... 1.70	
1937 ... 2.10	
1936 ... 2.07	← 1936—3-for-1 stock split
1935 ... 2.45	← 1935—33⅓% stock dividend
1934 ... 2.50	
1933 ... 2.00	
1932 ... 2.12	
1931 ... 2.50	
1930 ... 2.00	
1929 ... 2.42	

*ON BASIS OF TOTAL NUMBER OF SHARES OUTSTANDING AT THE CLOSE OF EACH YEAR.

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. . . The companies listed below are rendering a service to American industry by means of practical financial public relations. Their objective is better understanding between management and investors . . . security houses . . . the financial press.

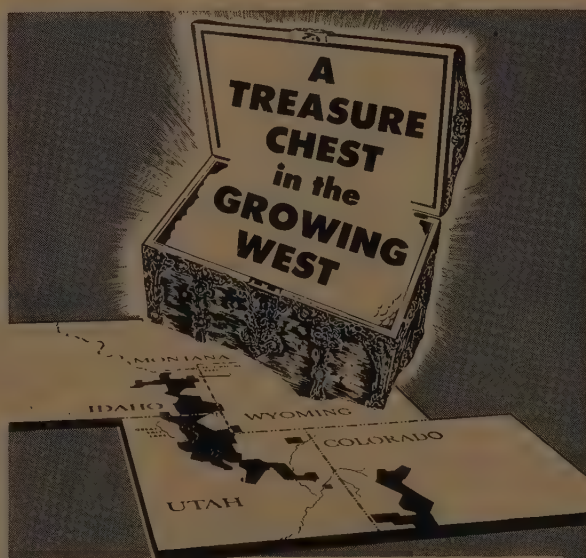
As financial public relations counsel for these forward-looking companies, we can supply you with up-to-date information about their activities, progress, and prospects.

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Mueller Brass Company
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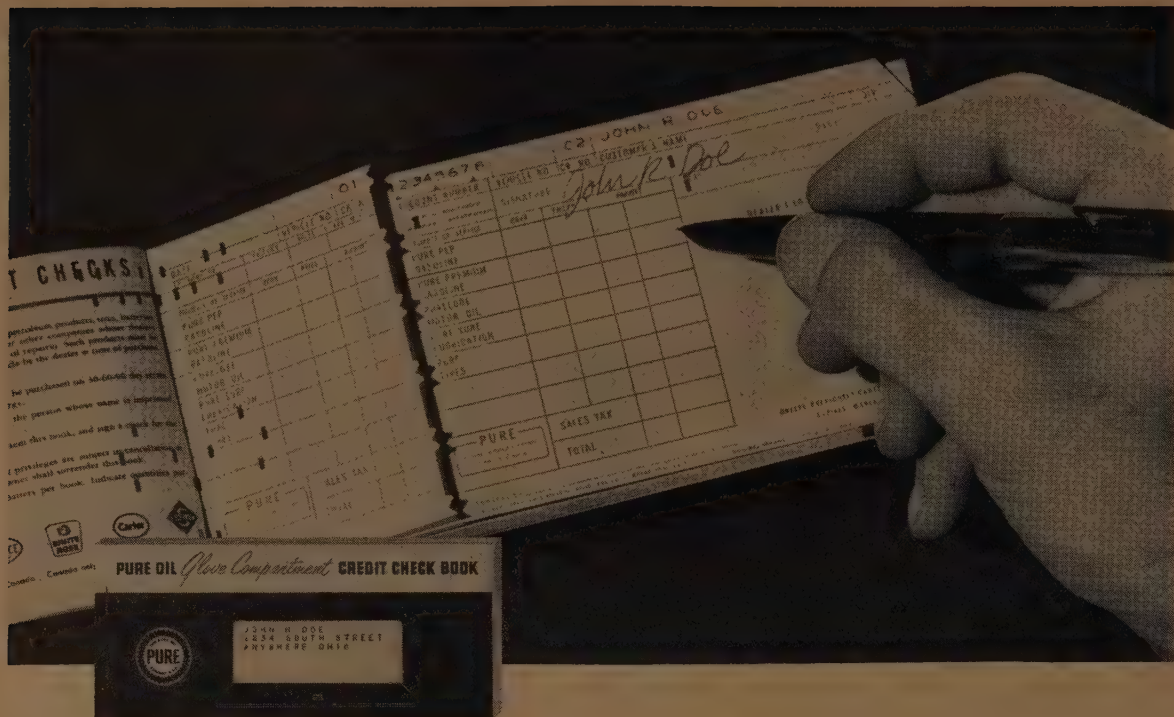
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"TALENTED" MACHINES—Pure's modern credit department utilizes the latest I.B.M. machines and other equipment, capable of handling volume credit business with speed and efficiency at every stage, from preparation of Credit Check books to final sorting and billing.



TRAINED STAFF—Competent personnel, trained in the intricate skills necessary to the operation of the department's special machinery, keep Credit Check procedures flowing smoothly at all times. The increased efficiency assures prompt customer billing and service, better credit control.

Last April, The Pure Oil Company streamlined its credit system by replacing the old-fashioned credit card with convenient booklets of I.B.M. cards called *Credit Checks*. The many advantages of Credit Checks have made them exceptionally popular with both customers and dealers.

This simplified, more efficient system means increased sales, greater accuracy, lower costs.

There's good reason for the proved popularity of this new program.

FOR THE COMPANY—The Credit Check I.B.M. system expedites handling of volume credit business. Its

greater accuracy minimizes errors. And it means increased business... more steady customers... greater economy.

FOR THE CUSTOMER—PURE Glove Compartment Credit Checks speed up customer purchases, are safe, convenient, and easy to use, and provide a permanent record of car expenses.

FOR THE DEALER—Credit Checks save time in writing up credit business, giving dealer more time for selling and offering improved service. His entire sales operation is simplified.

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with Pure



Investing Life Insurance Funds

GRANT TORRANCE

INSTITUTIONALIZATION of savings has played an increasingly important part in the American economy for several years, and from all indications will continue to be a significant factor. According to a recent statement by Houghton Bell, vice-president and general counsel for Mutual Life Insurance Company of New York, savings and loan associations, savings banks, and life insurance companies now hold 80% of the private debt in the United States.

Moreover, all pension funds are growing rapidly and have exerted an influence on the bond market. Although an organized effort is being made to induce funds to invest in mortgages, they have not generally done so. Pressure of funds for investment, together with relatively unattractive yields from other media, may bring about changes.

DISTRIBUTION OF LIFE INSURANCE ASSETS BY CLASSES 1940-54

Assets of all U. S. life insurance companies are, at the end of 1954, about \$84.2 billion compared with more than \$78.5 billion for the previous year. The 1954 figure represents an increase of almost 175% since 1940—the last full year before the United States actually entered World War II—and of about 75% since 1946—the first year after the Allies' victory.

All figures for the past year are estimates presented by James J. O'Leary, director of investment research, in his December 8 report to the membership of the Life Insurance Association of America, 1954 *Record of Life Insurance Investments*. Those for previous ones are from the 1954 *Life Insurance Fact Book*, published by the Institute of Life Insurance. Unless otherwise stated, all references are to December 31.

1940-54

A review of the distribution ratio to total in per cent of these assets during this period reveals such major changes as the following:

1. *U. S. Government Securities*. Increased from almost \$6 billion (19.3%) in 1940 to the peak of over \$21.6 billion (44.9%) in 1946. Declined, in dollars and percentage, each year since then to about \$8.9 billion (10.6%) in 1954. The latter compares with approximately \$9.8 billion (12.5%) in 1953.

2. *State, County, and Municipal*. Declined from almost \$2.1 billion (6.8%) in 1940 to \$614 million (1.2%) in 1946, but, since then (partly as a result of the great increase in revenue bond issues, including turnpikes), increased to about \$1.3 billion (1.7%) in 1953 and \$1.85 billion (2.2%) in 1954.

3. *Canadian Governments* (including all political subdivisions). From about \$447 million (1.5%) in 1940,

these increased to over \$1.3 billion in 1946. But they have since declined to \$1.1 billion (1.3%) in 1954.

4. *Railroad Bonds*. Amount was between \$2.8 and \$2.9 billion for both 1940 and 1946, but ratio to total assets declined from 9.2 to 6.0%. The estimate for 1954 is approximately \$3.6 billion (4.7%), or virtually unchanged from 1953.

5. *Public Utility Bonds*. Although the amount increased from almost \$4.3 billion in 1940 to nearly \$5.6 billion in 1946, the ratio declined from 13.9 to 11.6%. They have since risen to \$13.6 billion (16.2%) for 1954.

6. *Industrial and Miscellaneous Bonds*. During the 1940-46 period, this group increased from more than \$1.5 billion (5.0%) to \$3.3 billion (6.9%). Since 1946, it has increased more than 5½ times to \$17.1 billion (20.3%) in 1954.

7. *Stocks*. Increased from about \$608 million (2.0%) in 1940 to more than \$1.2 billion (2.6%) in 1946, and \$3 billion (3.6%) in 1954. For the two preceding years, the ratio remained constant at 3.3%, and it was 3.2% at the end of 1951. About 66% of the stocks owned in 1953 were preferreds. The largest holdings of both these and common shares were in industrial issues. Public utilities were next, and rails were far behind.

8. *Mortgages*. Increased from about \$6 billion in 1940 to under \$7.2 billion in 1946, while the ratio declined from 19.4 to 14.8%. They have since risen rapidly to over \$25.7 billion (30.6%) in 1954. The major part of these is in other than farm loans, and many of the latter are either Government-guaranteed or insured.

9. *Real Estate*. Declined from nearly \$2.1 billion in 1940 (6.7%) to \$735 million (1.5%) in 1946. Has increased since to \$2.3 billion (2.7%) in 1954. In considering the preceding, it is important to remember that, before the 1940's, few states permitted life companies to purchase real estate other than that necessary for the conduct of their business. Thus, most of their *other* holdings in 1940—and to a large extent in 1946—were acquired as a result of defaulted mortgages. In recent years, purchase of commercial, industrial, rental housing, and other properties has become lawful for companies in many states.

10. *Policy Loans*. Declined from almost \$3.1 billion in 1940 (10.0%) to below \$1.9 billion (3.9%) in 1946. Although the estimate for 1954 is \$3.1 billion, it is only 3.7% of total assets. Moreover, in terms of ratio to policy reserves, the results for 1940, 1946, and 1953 (1954 not available yet) are 11.3, 4.5, and 4.4%, respectively.

11. *Cash*. For the past four years, cash has represented 1.5 to 1.6% of total assets, and the estimate for 1954 is 1.5%, the same as for 1953.

12. *All Other Assets*. These are relatively small and have no bearing on the present discussion.

The accompanying table is presented to indicate, more clearly than the preceding comments, the distribution of assets during 1951-54. In measuring the relative importance of the significant changes mentioned below, it is well to bear in mind that total assets increased from nearly \$68.3 to \$84.2 billion, or about 23.5%. The estimated gain for 1954 is 7.2% versus the four-year average of 5.8%.

DECLINED ABOUT 19%

United States Government bonds have declined from about \$11 billion to \$8.9 billion, or about 19%. In terms of percentage of total assets, the decrease has been from 16.1 to 10.6%, or more than 33%. This reflects continuation of the Treasury's policy of raising new funds and refinancing existing issues through relatively short-term ones rather than bonds attractive to life companies and other long-term investors. It also shows that, to provide financing for such vital things as schools, turnpikes, water and sewer plants, and many other public facilities, expansion of electric, gas, telephone, and other public utility services, new industrial plants and additions or improvements to existing ones, millions of houses for veterans and others, as well as new commercial and other buildings necessary to serve them, these companies have supplemented funds

for investment available from the regular sources with those received from the maturity or sale of Government issues.

Industrial and miscellaneous bonds have absorbed a fair part of the proceeds from these sales and maturities as well as of new money. They increased from about \$11.4 billion in 1951 to almost \$17.1 billion in 1954, or 50%. As a percentage of assets, the gain was about 21%. Private placements play an important part in the growth of industrial bond investments.

LESS SPECTACULAR GAINS

Stocks showed less spectacular gains than some of the other classes, but they still merit comment. The amount so invested increased about 35% during the four-year period, and the ratio to total assets rose 12.5%. That stocks have enhanced in favor during the past year is evidenced by the 16.6% increase in amount, as contrasted with average annual 1951-54 gain of under 8.4%.

Mortgages gained about 33.3% in amount, but only about 8.1% so far as ratio to total assets is concerned. Investment in this type increased about 10.4% between 1953 and 1954, as contrasted with the four-year average gain of 8.3%. The percentage of growth in amount was about equally divided between farm and other mortgages.

Real estate, though still a small part of life companies'

Investments, by Classes, 1951-1954, All U. S. Legal Reserve Life Insurance Companies
Millions of Dollars

Investment Class	December 31, 1951		December 31, 1952		December 31, 1953		Estimated December 31, 1954	
	Amount Outstand.	% of Total	Amount Outstand.	% of Total	Amount Outstand.	% of Total	Amount Outstand.	% of Total
Bonds								
U. S. Government	\$11,009	16.1	\$10,252	14.0	\$ 9,829	12.5	\$ 8,925	10.6
State, Co., & Mun.*	1,170	1.7	1,153	1.6	1,298	1.7	1,850	2.2
Canadian Government*	1,463	2.2	1,342	1.8	1,254	1.6	1,100	1.3
Other foreign govt.*	25	0.0	26	0.0	24	0.0	25	0.0
Total Government	\$13,667	20.0	\$12,773	17.4	\$12,405	15.8	\$11,900	14.1
Railroad	3,307	4.8	3,545	4.8	3,643	4.7	3,825	4.5
Public utility	11,235	16.5	11,953	16.3	12,827	16.3	13,650	16.2
Industrial & misc.	11,441	16.8	13,702	18.7	15,527	19.7	17,075	20.3
Total bonds	\$39,650	58.1	\$41,974	57.2	\$44,402	56.5	\$46,450	55.1
Stocks								
Railroad	122	0.2	144	0.2	136	0.2	150	0.2
Public utility	724	1.0	841	1.1	947	1.2	1,200	1.4
Other	1,375	2.0	1,461	2.0	1,490	1.9	1,650	2.0
Total stocks	\$ 2,221	3.2	\$ 2,446	3.3	\$ 2,573	3.3	\$ 3,000	3.6
Mortgages								
Farm	1,527	2.2	1,705	2.3	1,886	2.4	2,050	2.4
Other	17,787	26.1	19,546	26.7	21,436	27.3	23,700	28.2
Total mortgages	\$19,314	28.3	\$21,251	29.0	\$23,322	29.7	\$25,750	30.6
Real estate	1,631	2.4	1,903	2.6	2,020	2.6	2,300	2.7
Policy loans								
& premium notes	2,590	3.8	2,713	3.7	2,914	3.7	3,100	3.7
Cash	1,096	1.6	1,146	1.6	1,215	1.5	1,250	1.5
Other assets	1,776	2.6	1,942	2.6	2,087	2.7	2,350	2.8
Total Assets	\$68,278	100.0	\$73,375	100.0	\$78,533	100.0	\$84,200	100.0

Source: Institute of Life Insurance.

*Includes turnpike revenue bonds.

*Includes all political subdivisions.

assets, is growing in importance. This is reflected by the fact it increased 41.0% from 1951 to 1954, and its ratio to total assets gained 12.5%. Moreover, it rose 13.9% during 1954, versus the four-year average of under 10.3%. Foreclosed real estate remains at a nominal level.

Although geographical and other groupings are also important, this resume is confined to distribution of life companies' assets according to class. Suffice it to say that, as the companies respond to the changing needs of the overall economy in selecting the types of things in which to invest their policyowners' funds, so do they also in determining in what parts of the country to place them.

SOME CURRENT PROBLEMS

Life insurance companies have many problems in common with other investors. Because of the nature of their contracts (such as long-term, guaranteed minimum rate of earnings on reserves, and obligations in terms of fixed-dollar amounts rather than purchasing power) the degree to which they are affected by various problems often differs from that of other institutions and individuals.

Earning an adequate rate of return, without assuming undue risks, has been one of the most difficult things to accomplish under the extremely easy money conditions that have existed during most of the last three national administrations. Regardless of which political party is in power, there seems to be little concrete evidence of material relief from this problem within the foreseeable future.

CALL PROVISIONS

The Federal Government, however, is not wholly responsible for losses in interest and dividends affecting millions of policyowners, their families, and others who directly or indirectly have their savings in fixed-income issues. Those borrowers or issuers of preferred stocks who insist in placing inequitable call provisions in their issues, and in exercising them whenever reductions in money rates make it feasible for them to do so, contribute in no small way to this situation.

Underwriters of such issues do likewise. Moreover, many investors have been remiss in not being more in-

sistent than they have been, in obtaining reasonable protection against losses resulting from refundings at reduced rates. With few exceptions, publicly offered corporate bonds and preferred stocks give investors very little protection on maintenance of yields they receive for investing funds at a time when the wages of money are higher than they prove to be later.

Hardly had the ink dried on some of the permanent forms for bonds sold during the 1953 temporary hardening in money rates than the issuing companies were busy calling them, in order to take advantage of the current substantial reduction in rates. This has already been an expensive experience for millions and millions of savers, and it is likely they have only started to pay the cost of redemption features, which are heavily loaded in favor of the issuer and investment banker.

GOVERNMENT FOLLOWS MORE REASONABLE POLICY

Both the Federal and most local governments follow a much more reasonable policy with regard to call provisions in their securities than corporations generally. There may well be justification for some differences between redemption privileges used by public and by private borrowers. However, it seems the latter have gone much too far in disregarding the fact that, although they may benefit their stockholders and the United States Treasury (through reduction in their tax deductions for interest paid), they are adversely affecting the lives of many millions whose savings, regardless of whether they be in life insurance, savings banks, or elsewhere, are at least to some extent dependent on earnings from bonds.

As Victor B. Gerard, treasurer of the Commonwealth Life Insurance Company, emphasized in his splendid discussion of this subject when he was chairman of the American Life Convention financial section in 1953, borrowers should not only be given an opportunity but should also be encouraged to reduce their debts through savings from earnings. Bonds and preferred stocks should be callable for such purposes, at prices substantially in line with prevailing practice.

But, when it comes to the question of refunding to obtain a lower interest rate, is not the lender entitled to far

CONSOLIDATED NATURAL GAS COMPANY

30 Rockefeller Plaza
New York 20, N. Y.

DIVIDEND No. 28

THE BOARD OF DIRECTORS has this day declared a regular quarterly cash dividend of Thirty-Seven and One-Half Cents (37½¢) per share on the capital stock of the Company, payable on February 15, 1955, to stockholders of record at the close of business January 17, 1955.

R. E. PALMER, Secretary

December 16, 1954

MINNEAPOLIS GAS COMPANY

739 Marquette Avenue
Minneapolis 2, Minnesota

Common Stock Dividend

The Board of Directors of Minneapolis Gas Company, at a meeting held on January 10, 1955, declared a dividend of 31¼ cents per share payable in cash on February 10, 1955, to common stockholders of record as of the close of business January 20, 1955.

H. K. WRENCH, President

DIVIDEND NUMBER 42

Interlake Iron Corporation has declared a dividend of 60 cents per share on its common stock payable December 15, 1954, to stockholders of record at the close of business December 1, 1954.



J. P. Jager
Exec. Vice Pres. & Treas.

**INTERLAKE
IRON
CORPORATION**
CLEVELAND, OHIO

Blast furnace plants in Chicago, Duluth, Erie and Toledo

more consideration than he has received for several years? This could be in the form of one or more of such things as: (1) limit the period during which such action can be taken to perhaps five to ten years immediately preceding maturity of the issue, (2) increase redemption prices, (3) restrict calls for such purpose to interest dates and provide for 90 to 120 days' advance notice of intention to exercise.

COMMON STOCKS

The question of whether or not life companies should invest in stocks, particularly common issues, is given added impetus by the low returns provided by bonds. It has many interesting facets, but only a few can be touched on briefly here.

Although qualifications vary, virtually all states now permit companies under their supervision to invest part of their funds in common stocks. The extent to which they have availed themselves of this has been previously outlined in this article. What their policy will be in the future, of course, remains to be seen.

MORE REASONABLE VALUATION FORMULA

For several years, committees representing the National Association of Insurance Commissioners and the life insurance industry have been trying to devise a more reasonable valuation formula for both common and preferred stocks

than the one now in effect. The latter requires stocks to be carried at current market values for annual statement purposes. This has retarded life companies' investments in such issues, and adoption of a satisfactory valuation basis may well stimulate their activity in them.

Institutionalization of savings, as previously mentioned, has resulted in 80% of private debt being held by such investors. Whether or not it will be in the best interests of the United States to expand such debt to take care of future needs is also a question that has a bearing on whether or not life companies will become more active in the field of equities—both stocks and real estate—than they have in the past.

LONG-TERM PRECAUTIONS

Highly important new products, processes, and methods are becoming realities with such rapidity that there is no doubt but what this is indeed a dynamic rather than a "mature" economy. More men and funds are being devoted to research than ever before, and it is entirely reasonable to believe progress in the future will far overshadow that of the past. The preceding is surely encouraging, but it does increase the importance of taking proper precautions with respect to making long-term investments and of continuous careful supervision of these investments while they are in the portfolio.

This subject merits an exhaustive study in itself. All that can be done here is to raise a few questions which seem to warrant consideration. They include such things as the following:

1. Is the borrower providing essential goods or services? If so, what is the outlook for them remaining so?
2. Does the company have flexibility, and has it demonstrated its ability in the past to switch successfully to new products or methods? Has it kept its operations abreast of the times, and does it have adequate research facilities?
3. If the investment is dependent on earnings of a specialized and fixed property—such as a toll road or bridge—is the final maturity proper in relation to the probable *profitable*, as well as useful, life of the improvement? Are there adequate mandatory sinking funds or serial maturities to protect properly the outstanding debt?

In this connection, it is well to remember that the automobile has been a factor of major importance for a period less than that for which many turnpike and toll bridge bonds have been issued in recent years. Whether or not such projects will continue to be profitable ventures for that long a period, or whether their estimated earnings will permit them to reduce their debt to a safe level before they go the way of the turnpikes in the eighteenth and nineteenth centuries, remains to be seen.

CONCLUSION

Though it is impossible to predict accurately what changes life companies will make in their future investment programs, it is highly probable that they will continue to be strongly influenced by the varying capital needs of the numerous segments in the over-all economy. The prime consideration will remain proper protection of the funds entrusted to them by their policyowners.

Inquiries Invited

Aircraft Radio Corp.

Airborne Instruments Laboratory, Inc.

American Research and Development Corp.

Baird Associates, Inc.

High Voltage Engineering Corp.

Marquardt Aircraft Co.

Piasecki Helicopter Corp.

Reaction Motors, Inc.

C. E. UNTERBERG, TOWBIN CO.

61 Broadway, New York 6, N. Y.



Southern California Edison Company

DIVIDENDS

CUMULATIVE PREFERRED STOCK
4.08% SERIES
DIVIDEND NO. 20

CUMULATIVE PREFERRED STOCK
4.88% SERIES
DIVIDEND NO. 29

The Board of Directors has authorized the payment of the following quarterly dividends:

25½ cents per share on the Cumulative Preferred Stock, 4.08% Series;

30½ cents per share on the Cumulative Preferred Stock, 4.88% Series.

The above dividends are payable February 28, 1955, to stockholders of record February 5. Checks will be mailed from the Company's office in Los Angeles, February 28.

P. C. HALE, Treasurer

January 21, 1955



SAFeway STORES INCORPORATED

Common and Preferred Stock Dividends

The Board of Directors of Safeway Stores, Incorporated, on Nov. 9, 1954, declared the following quarterly dividends:

60¢ per share on the \$5.00 par value Common Stock.

\$1.00 per share on the 4% Preferred Stock.

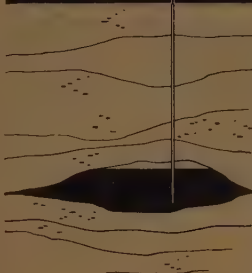
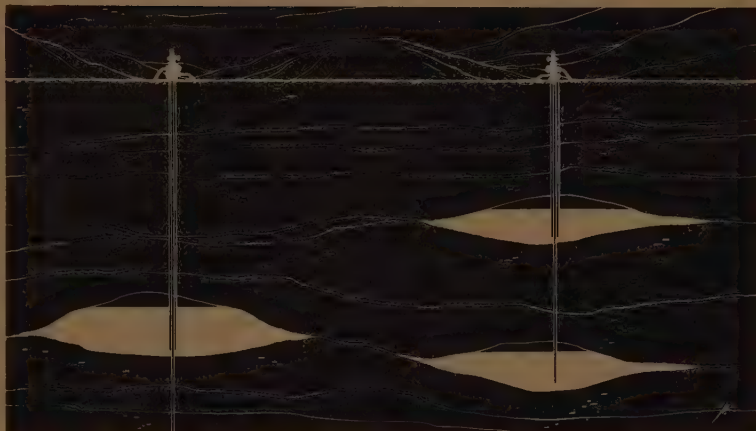
\$1.07½ per share on the 4.30% Convertible Preferred Stock.

Common Stock dividends are payable December 15, 1954 to stockholders of record at the close of business December 2, 1954. Dividends on the 4% Preferred Stock and 4.30% Convertible Preferred Stock are payable January 1, 1955 to stockholders of record at the close of business Dec. 2, 1954.

MILTON L. SELBY, Secretary
November 9, 1954

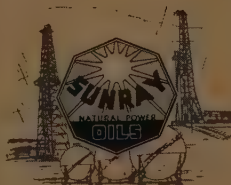


SUNRAY GETS 92 PRODUCING WELLS FROM 62 HOLES DRILLED!



Those who know the oil business, realize that only a small percentage of exploratory wells drilled are turned into producing wells. It might seem surprising then for SUNRAY to drill 62 holes and end up with 92 producing wells. The explanation is simple, however, and shows how SUNRAY is taking advantage of every efficient production practice in the book to produce as much oil as possible under state proration at the least possible cost.

Down near San Antonio in Jim Wells County, Texas the Sellingson Oil Field has at least 40 separate pay zones, all at different depths under various segments of the big field. When SUNRAY drilled its first 62 wells in this field it completed 30 of the wells as dual producers. That is, each of these 30 wells produced oil from two different pay sand reservoirs at two different depths.



Producing oil from two zones through one well is another example of the progressive methods SUNRAY uses to produce oil as economically as possible in keeping with good conservation practices.

SUNRAY OIL CORPORATION

GENERAL OFFICES • SUNRAY BUILDING • TULSA

"America's Interests and SUNRAY's Interests Go Hand in Hand."

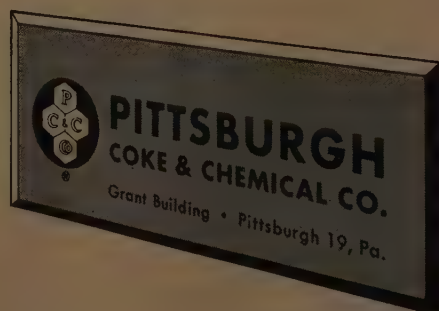


Serving Industry and Agriculture with Basic Products from Coal

THERE'S hardly an industry in America today that doesn't depend upon products from coal. Modern chemistry has unlocked the door to literally thousands of these useful compounds.

At the completely integrated plant of the Pittsburgh Coke & Chemical Company, we concentrate on the production of the most *basic* of these coal-derived products—phthalic anhydride for the paint maker, plasticizers for the vinyl film maker, and pesticides for the farmer—to name just a few.

Today, on a firm foundation of coke, pig iron and cement production, Pittsburgh operates ten diversified divisions. And the production of each is knit into one, continuous, interlocking pattern. To our customers, this highly developed integration—unique in modern industry—spells assured product quality and dependable, continuing supplies . . . because Pittsburgh is *basic*.



W&D-54898

Modern Developments in Financial Controls

JOHN E. KUSIK

TOO OFTEN MANAGEMENT IS GUILTY of looking at only one financial aspect of its business—that of control devices—with the expectation that these devices alone will accomplish what management as a whole is supposed to do. To get the whole truth, one must have the whole picture. It becomes necessary to remember that the main purpose of management is to get things done. This involves heavy financial responsibilities which cannot be met merely by setting up financial controls. Full effort of the entire management team is required to discharge these responsibilities successfully.

Four major elements are necessary for evaluating this problem.

CLEARLY DEFINED FINANCIAL GOALS

In business management, one of the most important elements is the existence of clearly defined, financial goals. Otherwise, there will be no direction toward which to steer business operations. Objectives, often relentless and inexorable, will provide the framework for controls. When a purpose does not exist, management merely drifts, no matter how elaborately it proceeds through only motions of exercising control.

There may be a number of aims, usually closely related, which vary in urgency of their command over management. This urgency advances or recedes with the changing fortunes of a business. For example, there is the necessity of meeting payrolls and the maintenance of established dividend rates. As earnings and cash margins increase, these necessities lose their ominous importance, to the extent that they are not referred to in daily management discussions. At the same time, they can never be lost sight of in planning and controlling finances.

These objectives may include, too, new targets for major increases in the company's earning power. They may call for upheaval type of action and involve mergers, major additions of new services or abandonment of existing services, or the appointment of more vigorous executives, through either promotions or employment from outside.

Management must seek these objectives because no field of business activity remains static. Threats of obsolescence, rising wage levels, and other factors remind us of the dangers of "keeping things as they are." They make planning for growth and development an inescapable obligation of management.

Next in importance is management's task of programming and organization. In other words, who is going to do what, when, and how, to attain the objectives which have become identified!

For example, at C&O one of our current primary objectives is a \$25 to \$30 million program of reducing our operations cost level. It is scheduled for completion by the end of 1956. It includes a wide range of projects—closing down some terminals and yards; increased utiliza-

tion of Diesel engines and rolling stock; abandonment of some tracks; installation of 4,000 air-miles of a modernized teletype system; possible refinancing of a bond issue; and review of tax administration policies in an effort to find increased, legitimate deductions, thus reducing ultimate tax payments. Obviously, it is a program that cuts across departmental lines. For successful attainment, it requires the full effort of the entire management group.

COST-REDUCTION PROGRAM

This cost-reduction program of Chesapeake & Ohio illustrates two additional aspects of getting things done:

First, the programming of cost reductions must be a continuous process. This means that, when we complete this program, we should have another ready to go. A successful cost-reduction program provides an important companion piece to forward-looking sales programs.

All such programs should be quite formal and should operate like the built-in management device of the automotive industry of bringing out new models of cars annually. In that industry, management programs are geared to this annual custom. On C&O, we believe such techniques are valuable in maintaining the urge for self-improvement, thus preventing complacency, dry rot, and excessive costs.

There is another aspect of getting things done which is illustrated by C&O's cost-reduction program. It is not enough to agree on a program and to put it down on paper—in the form of a budget, for instance. This alone does not get things done.

Once a program is established, it must be followed up by assignments of responsibility. Almost invariably, drastic programs call for changes in organization structure and shifts in man power. As an example, C&O's cost-reduction program has led to shifts of major executives and changes in organization including the consolidation of districts. This may ultimately result in a transfer of several hundred people to new locations, at a cost running into hundreds of thousand of dollars. However, without such steps, we would only have paper dreams.

It is a responsibility of financial men to point out realism in planning that is not backed by proper organization effort. This responsibility is an important part of modern financial management which used to devote excessive attention to guarding the integrity of financial records covering the past, but paid little or no attention to blueprints for the future.

We have considered primary financial objectives, programming, and organization as important elements of getting things done, and should now appraise tools that indicate to management the rate of progress in getting things done.

First of all, one must recognize that the most sensitive indicators, those closest to accomplishments, are not neces-

sarily financial in character. Successful forward movement of C&O's cost-reduction program does not depend, in the first instance, on financial control devices. To be sure, successes and failures of this program eventually reveal themselves in financial terms.

However, much more sensitive indicators are available through nonfinancial media, including personal inspection and oral reporting on planning and physical progress. One may obtain a good measure of a roadway maintenance program by determining the number of ties, tons of rail, cubic yards of ballast and man-hours of labor needed to keep the quality of roadbed up to our standards. Such data also provide us with better measurements of progress than can be obtained from financial indicators.

A RAILROAD CAUTION SIGNAL

Let me turn on a railroad caution signal for the benefit of us financial men. Because a tremendous amount of record keeping is needed to produce financial measurements, many companies consider this record keeping and the administration of people involved as important ends in themselves. Though much has been said about the value of the analytical function, realistic appraisals indicate that its contributions continue to be inadequate, in relation to the total effort expended in routine work. Even progressive organizations do not assign enough brain power to high-caliber financial services which would justify their high cost.

QUESTIONS OF FAR-REACHING CONSEQUENCE

Recent developments, of such new tools as the large-scale electronic computers and the philosophy of operations research, raise questions of far-reaching consequence. The computers and certain operations research techniques are likely to focus more attention on a reappraisal of financial services, because they will ultimately displace large areas of routine work and its associated administrative problems.

Moreover, these developments promise new impetus to

the evolution of financial services which have already moved toward an information-gathering system with less dependence on accounting techniques. Electronic engineers and scientists may even take over most of this information gathering. It will be interesting to note what the future functions of accountants may be. They may well find themselves working for some "vice-president in charge of information gathering," with an electronic engineering background!

CONTROL IS A LINE JOB

Railroad financial men ought to recognize that their role is not that of control. Control is the job of the "line" organization; that is, of executives to whom specific performance responsibility has been delegated. In getting things done, the proper role for financial men is gathering information, developing effective measurement and control devices for the use of officers with line responsibility, and contributing their knowledge in appraisals of the present and the future.

This does not detract from the methods of financial men. It means that their function, if anything, could be archeologists or coroners, whether by use of budgets of immeasurably broadened. They cannot think and act like other devices. Instead, they should actively seek ways and means of assisting other members of management in carrying out the basic responsibility for getting things done.

HOW NOT TO USE A BUDGET

Some railroads place local superintendents on strict monthly budgets, not allowing for unexpected increases in traffic, unusual weather conditions, or any out-of-the-ordinary factors. When these unusual conditions occur—as they often do—the superintendent is forced to lay off part of his yard and station crews toward the end of the month, in order to stay within the confines of his budget.

At the beginning of the next month, he must work his crews overtime to clear up the accumulation. This causes

Avisco

AMERICAN VISCOSE CORPORATION

Dividend Notice

Directors of the American Viscose Corporation at their regular meeting on January 5, 1955, declared dividends of one dollar and twenty-five cents (\$1.25) per share on the five percent (5%) cumulative preferred stock and fifty cents (50c) per share on the common stock, both payable on February 1, 1955, to shareholders of record at the close of business on January 17, 1955.

WILLIAM H. BROWN
Secretary



THE COLUMBIA GAS SYSTEM, INC.

The Board of Directors has declared this day the following quarterly dividend:

Common Stock
No. 82, 20¢ per share

payable on February 15, 1955, to holders of record at close of business January 20, 1955.

January 6, 1955

DALE PARKER
Secretary

The regular quarterly dividend of 25 cents per share and an extra dividend of 25 cents per share have been declared by Daystrom, Inc. Checks will be mailed Feb. 15th to shareholders of record Jan. 27th.

DAYSTROM, INC.

ELIZABETH, N. J.

Electronics
Furniture
Printing Equipment

102 consecutive dividends

● A quarterly dividend of 45¢ a share has been declared on the common stock of this company, payable on January 3, 1955, to shareholders of record December 8, 1954.

● A quarterly dividend of \$1.00 a share has also been declared on the preferred stock of the company. It too is payable on January 3, 1955, to shareholders of record December 8, 1954.



E. H. Volviler, President
November 26, 1954

ABBOTT LABORATORIES
Manufacturing Pharmaceutical Chemists
North Chicago, Illinois

large claim payments for delayed freight and mail, but this is no concern of the superintendent, because it is not included in his budget.

This graphically illustrates an attempt at cost control which actually leads to cost increases. Similar budgets have forced repair shops to work on a stop-start basis, laying off near the end of the month or the quarter, and working men overtime at the beginning of the next budget period in order to get caught up.

This practice leads to high repair costs, and lower-quality workmanship, because good workers leave to seek steady employment elsewhere. I know of at least one railroad that, as a result, has a very low standard of car maintenance and unusually high costs.

Most organizations include a number of executives who find conversation easier than action. Without one entering into a psychological study of springboards of managerial action, the conclusion may be reached that successful action cannot be depended on until and unless the organization possesses a sufficiently large proportion of action-minded managers. These men must be broadminded enough to recognize the necessities of action for growth and development, as well as for the meeting of current emergencies. Development of such managerial man power has been one of the main tasks of C&O's top management. It should be a main task of every top management.

Traditionally, financial control stands for systems, devices, and procedures. They are powerless to accomplish what the management team as a whole is supposed to do. In the broad sense, successful financial control reaches back to the very foundations of top-management responsibility,

requiring the full effort of the management team—in setting objectives, programming, organizing for accomplishment, and critically appraising the team itself.

Budget making and management planning must depend on the following four factors, in much the same way that train operation depends on railroad tracks and schedules:

1. Level of traffic—both present and prospective—is important because it determines incoming revenue that will be available for operating and other expenses.
2. Condition of the operating plant and its adequacy for present and prospective needs includes roadway, motive power, and rolling stock, and should allow for long-term research and development.
3. Storm or depression reserves should be available for unforeseen contingencies.
4. Net income and dividends must be maintained at a level consistent with the interests of security holders and internal requirements.

There will be conflicts between these factors in their demands for funds. The skill with which management balances these conflicts will determine the attractiveness of the railroad's securities to investors, its financial soundness, and its ability to produce efficient service. This balancing of operating and financial requirements, so important to planning and budget making, is no different from the juggling act performed daily by division superintendents. Sound budgeting requires a proper balance of operating and financial requirements.

Let us, therefore, keep all things in proper perspective and place the responsibility for guidance where it belongs—on the management team as a whole!

NATIONAL DISTILLERS

PRODUCTS
CORPORATION



DIVIDEND NOTICE

The Board of Directors has declared a quarterly dividend of 25c per share on the outstanding Common Stock, payable on March 2, 1955, to stockholders of record on February 11, 1955. The transfer books will not close.

PAUL C. JAMESON
January 27, 1955 Treasurer



INTERNATIONAL HARVESTER COMPANY

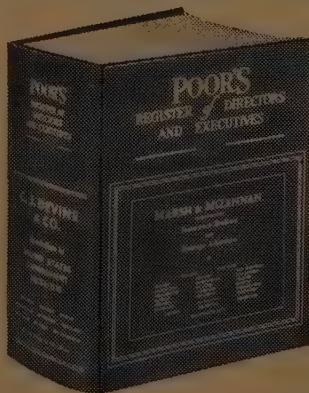
The Directors of International Harvester Company have declared quarterly dividend No. 145 of one dollar and seventy-five cents (\$1.75) per share on the preferred stock payable Dec. 1, 1954, to stockholders of record at the close of business on November 5, 1954.

GERARD J. EGER, Secretary

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Will Help You Locate
and Sell America's Industrial
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- Includes complete case histories of 80,000 top-flight executives throughout the country with their home addresses, educational background, year and place of birth, interlocking connections.
- Also includes a breakdown of 208 classifications of industry... a products index of over 2,500 commodities and service items.

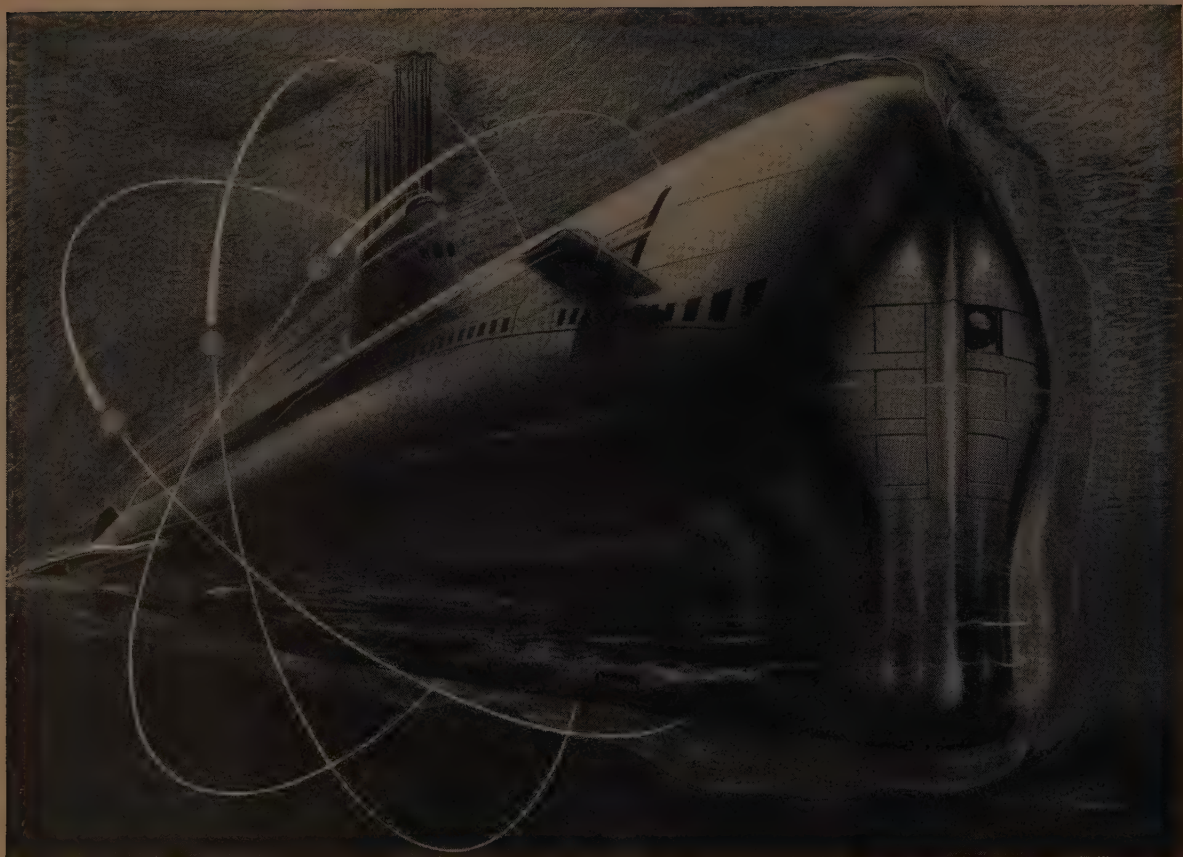
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A snorkel intake tube being machined to very precise tolerances on one of the large lathes in the Groton plant.



Hydraulic bender shapes section of 8-in. steel pipe in two minutes. This operation formerly took a full day.

SOCONY-VACUUM OIL CO., INC.

The Makers of Mobilgas and Mobiloil



Opportunities in Closer Valuation of Stocks

PAUL A. MURPHY

MOST OF THE REPORTS written by analysts on the over-all stock-market position and outlook discuss a wide variety of general topics. Several favorable and unfavorable factors are cited, and a conclusion is stated.

Unfortunately, these factors and conclusion are seldom related to the level of stock prices, insofar as the reader can discern. Nor is an indication given of the level of stock prices which would balance the conditions described or anticipated. The opinion guardedly anticipates "lower" prices or "higher" prices. How much more stimulating it would be to state that equilibrium would seem to be 300 or 400.

Similarly, why does the typical analyst, in a report on a particular company, speak of "important" factors or developments without any clue as to "how important." A majority of reports seem to bear no relation to the price of the stock, and very, very few attempt to place a value on the issue in relation to the factors discussed. Why not value the stock based on the factors discussed? After all, that is why analysts are needed, and sooner or later the market will place a value on the factors that seem important.

Benjamin Graham has often complained that the average security report recommends an issue because of an anticipated development. The event may not occur, he observes. It may have been discounted in the price, or some other event may offset the development anticipated. In any of these cases a loss may occur. However, had the analysis been based on an evaluation of all factors and a potential price logically adduced, the chance for error should be much less.

The reasons usually given for failing to place a value on the general market or individual issues are lack of space, lack of time, fear of liability, and fear of error.

The lack-of-space argument carries little weight, in my opinion. Only a few lines are needed to indicate the process of valuation, generally fewer than a wordy product description which gives no clue concerning relative importance.

Lack of time is a real hurdle. However, since recommendations have to be made, they should be as accurate as possible, or the author's reputation and future may suffer (to say nothing of the investor's capital). If placing a reasoned value on issues recommended leads to greater accuracy, the additional time required will be well spent.

Liability for errors should be no greater, where the customary disclaimers are emphasized. In addition, a range of values may be used when desirable.

Fear of errors because of potential damage of one's reputation is of very real concern. Fame is fleeting enough in the hazardous field of security appraisal. Perhaps for this reason, however, any procedure that leads to better reports should tend to safeguard reputations. Since placing a value on different factors requires more knowledge and test, checking it should lead to greater care in making reports.

The opportunities in a valuation approach are impressive. Reports are usually written to stimulate action. Where valuations are used, an understanding of the author's "pitch" is much easier. This means the conclusion carries greater weight, and, of course, this lends confidence to the reader. Since action is based on these factors, the analyst becomes more effective and thus more valuable.

As a dividend, this more exacting approach should bring increased challenge because of the ingenuity and imagination required in fitting the pieces together, and this naturally makes security analysis even more exciting and mentally stimulating.

THE GREATEST NEED

Perhaps the greatest need is for a method of valuing equity earnings in relation to (1) other investment media, and (2) gradations of value within the equity field. To be specific, what valuation should be placed on equity earnings relative to interest income from high-grade bonds? Is there a better basic yardstick than high-grade bonds? What maturity should be used, and so on? This factor of relationship ceases to be academic when one considers that a change in relationship of 50 to 75% in the valuation of equity earnings relative to bonds adds 50% to the valuation of such earnings.

If a suitable method of valuation can be developed, then valuation of earning power in general will become more dependable. From such a base, the next logical step would be a gradation of valuation for various companies and industries. Admittedly this is a difficult assignment, but it has been practiced informally by many people in certain securities, such as railroad stocks and bonds, and utility stock.

Benjamin Graham devoted considerable time to this problem while addressing the National Convention in San Francisco. The last issue of *THE ANALYSTS JOURNAL* indicated a tendency in this direction. Perhaps this recognition of the need, coupled with the rising level of the stock price-earning ratio, will focus more attention on the valuation of earnings relative to bonds as well as between the various individual issues.

* * *

1869 . . . May . . . London stock market buoyant.

November 24-25 . . . Suez Canal opened.



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PURITAN automotive specialty products

OLIN flashlights and dry cell batteries

FROST outdoor furniture

Textiles of Tomorrow

CHARLES H. RUTLEDGE

IT IS JUST about fifteen years since the world's first commercial nylon fiber plant went into operation. That eventful day was December 12, 1939, when men in Seaford, Del., held their breath, kept their fingers crossed, and squeezed charms for luck as the power was turned on in the du Pont Company's new venture.

That first plant—which was built concurrently with a pilot plant and therefore was not scaled up from the smaller version—operated successfully and quite fortunately. That supreme effort culminated more than eleven arduous years of costly, soul-testing struggle. A new textile fiber had come into being.

In 1939, man had the four major natural fibers—wool, cotton, flax, and silk—and the two rayons—viscose and cuprammonium. We had acetate and a struggling infant, a textile fiber from glass. Thus, nylon became the ninth fiber.

Since then and largely within the last five years, there have been added some 11 more candidates, so that today, in the man-made field plus the natural fibers, there exist the cellulose—the rayons and acetates; the mineral fibers such as glass and the metallic yarns; the polyamides such as nylon; the acrylics such as Orlon, Acrilan, X-51 and X-54, and Dynel—at least partially acrylic; the polyester Dacron; Vicara, a protein fiber from corn; the Vinyon fibers from vinyl chloride and vinyl acetate; and many other interesting developments such as Saran fiber, polyethylene, Teflon tetrafluoroethylene, Velon, and Celanese's new triacetate fiber "Arnel."

The great textile industry grew with the Nation, doing an outstanding job for the major portion of that period with four natural fibers. Today this industry finds itself with no less than 20 exciting, basic tools with which to work. Now the question arises: how to greet these developments.

Although it was true that natural fibers were handicapped by certain drawbacks and weaknesses, their adaptation to a multiplicity of uses was brought about with such skill for centuries that, even where man-made fibers might have offered improved properties, the latter were hard-pressed to gain a foothold.

NEW OPPORTUNITIES

It is now recognized that man-made fibers brought new opportunities to the textile industry. At the same time, the need for special handling and the diversified properties of the newer fibers also brought new problems and the need for new approaches to solve them.

No single fiber is qualified to satisfy all our present-day needs. The once-popular idea of selling a fabric as 100% of any one fiber may ultimately become obsolete. Just as alloys are blended for specific applications, so are more and more fibers being blended to produce fabrics for specific functions and performance. Furthermore, textile re-

search is showing that the newer chemical fibers are more and more complementary to the natural fibers, as they are to the cellulose, when used in blends and combinations.

This bears a striking resemblance to great developments in the metallurgical industry which have opened new avenues of enterprise in manufacturing, transportation, and construction.

Without alloys of iron and manganese, chromium and tungsten, these industries could not have made the great progress they have made. Alloys of titanium with iron, and aluminum with chromium are solving many problems in aviation. No single alloy could do the job alone. Similarly, no single fiber is qualified to satisfy all of our present-day textile needs.

In using the newer fibers, particularly in blends, the approach on some occasions has been on a haphazard basis. This is both needless and unfortunate. However, the firms that are developing sound fabrics are approaching their problems through engineering.

This is a well-established approach that has been used in the development of alloys, glass, paints, plastics, resins, adhesives, and others. It applies to the development of building materials, equipment, and machinery.

No longer does the baker, or the confectioner, measure by the pinch, the heaping spoon, or the cup of varying size. He does it scientifically, as does the ice cream maker, and the dairyman, and the tobacco blender, and the distiller. Each knows what he is doing. Each knows exactly what he will produce. Each has taken the guess out of his operation.

MORE PROGRESS NEEDED

While there has been progress along that line in the development of fabrics, more progress is needed. The types of steels selected for razor blades, watch parts, railroad tracks, girders, and cooking utensils differ as greatly from one another as the types of fabrics that go into intimate apparel, suitings, uniforms for chemical workers, filtration fabrics, or the cord in an airplane tire.

Several advantages in the scientific approach to developing fabrics are enjoyed by man-made fibers. Initially, they have uniformity of price and considerably more uniformity of quality. Being man-made, they are subject to changes in form and other characteristics within limitations, of course.

The development of high-tenacity rayon for industrial uses is a case in point. Basically, the textile rayon in the lining of a coat is the same as the high-tenacity rayon in heavy-duty truck tires. Instead of adapting the textile rayon for trucking uses, however, a new, high-tenacity version of the fiber was developed for functionality. Both came from the same basic material—cellulose.

The acceptance of man-made fibers is indicated in studies of interfiber competition between 1937 and 1952, the

latest year completed. The outstanding feature of these studies is the penetration of the man-made fibers in all divisions of the textile industry.

During the sixteen-year period, the end-use consumption of man-made fibers increased by 1,128 million pounds, or 331%. This compares with an increase of 454 million pounds, or 10%, for cotton, wool, silk, and linen combined. In total end-use consumption—all fibers man-made and natural combined—the increase was 1,582 million pounds, or 34%.

Leading this trend by a tremendous margin has been the industrial use of man-made fibers. While the over-all use of fibers—natural and man-made—increased by 5% in this category, industrial use of natural fibers went down by 32% and the use of man-made fibers increased at the astronomical rate of 3,559%, or a total of 491 million pounds.

FUNCTION THE PRIMARY REQUISITE

Function is the primary requisite in industrial fabrics. Longer life and fewer shutdowns for repairs or changes are important factors. Here is where the greater strength; higher abrasion resistance; chemical resistance; resistance to sunlight, alkalies, and acids; dimensional stability; and many other plus properties of man-made fibers show their worth.

Cotton once dominated the tire-cord field. Then rayon supplanted cotton because of improved performance and lower and more uniform price. Now nylon is moving strongly into the rubber industry, which, in 1952, used a total of 652 million pounds of fiber.

One year ago there were three nylon cord passenger-tire brands on the market. Today, 13 manufacturers are incorporating nylon's long-wearing, safe-riding qualities into 27 premium and standard brands, a ninefold increase in brands.

Du Pont nylon has figured prominently in the tire field since its strength and impact resistance were enlisted during World War II to make possible the operation of giant bombers and carrier-based planes, and later fast-landing jets, under service conditions encountered throughout the world.

After the war, du Pont developed nylon for truck tires. Then they went on buses. Through a long-term joint effort by tire producers, machine designers, and du Pont's specialists, a new technology was developed for building tire casings of hot-stretched fiber. Here is an outstanding example of the scientific approach to improve a product and develop its markets.

This was culminated in the 1954 Indianapolis Memorial Day race when every tire used in the 500-mile grind was built around nylon. Several cars completed the classic with an unprecedented single change of wheels, the reduction in the pit time contributing to new speed records.

Nylon makes potentially lighter, cooler-running tires with strength superior to that of conventional tires. The better heat dissipation allows thicker treads, increasing tire mileage. Continued recappability, vital for truck operation, also characterizes the new passenger tires.

Among manufacturers using nylon tire cords in their leading passenger tire lines today are Armstrong Rubber,

Dayton Rubber, Denman Rubber Manufacturing, Dunlop Tire & Rubber, Gates Rubber, General Tire & Rubber, B. F. Goodrich, Kelly-Springfield Tire, Mansfield Tire & Rubber, Seiberling Rubber, and U. S. Rubber Companies.

The so-called industrial field for fibers is a tremendous one which, in addition to tires, includes carpets, tops for convertibles, upholstery, seat covers, hose, belting, fuel cells, laundry supplies, electrical insulation, felts, bagging, cordage and twine, tents, tarpaulins, filter fabrics, sewing thread, bookbinding, abrasives, caskets, flags, meat stockinette, cheese covering, tobacco cloth, baby carriages, friction tape, U. S. mail bags, and the fishing industry.

The Moran Towboat Company in New York Harbor has been using nylon towing and mooring lines for more than five years, and many other large shippers are following this lead. Cat lines and spin lines of nylon are appearing in the oil fields of Texas. Larger catches of fish are being reported with nylon nets by commercial operators who are suffering fewer breaks in the nets and far less maintenance.

Potentially, the industrial use of textile fibers offers a market of more than two billion pounds annually. Increasing population will have a major effect on the use of fibers, as it will on all fields. If the forecasts of the Materials Policy Commission, named by Mr. Truman, are correct, the United States in 1975 will have a population of 193 million, and this will produce an additional 2,105 million pounds of man-made fibers.

There are many authorities who believe that the above population forecast is ultraconservative. Our population as of July 1, 1954, was estimated at 162,193,554, and it is growing fast.

We have one birth every 9 seconds against one death every 21 seconds. We have one immigrant every 2 minutes against one emigrant every 17 minutes. In this manner, we add a Richmond, Va., each month, or more than 230,000 people. We add a new state—a Maryland—every year, or more than 2,500,000 people, and every four years, at this rate, we add a California, or more than 10,500,000 people. At the present pace, our population in 1975 should be well in excess of 200 million people.

These same people will insist on eating in preference to wearing clothes. Therefore, it is conceivable that the production of natural fibers may be confronted with some handicapping factors in favor of food. Actually, the day may come when it will be more profitable for the landowner to produce food than fiber.

To provide the newness, diversity, and style being demanded by the public, the textile industry today has 20 fibers from which to choose; is no longer required to adapt a limited number of fibers for all uses.

The astounding figure of 1,048,215 is the absolute minimum number of blends possible from the 20 fibers now available. Every additional fiber will increase the blending possibilities by several hundred thousand.

These rather stupendous figures frequently bring cries of confusion from many who would live without change. However, times change, styles change, people change, in this changing world. Therefore, a million possible blends of fibers represent just that many opportunities for analysts' discernment.



UNITED FRUIT COMPANY

**222nd
Consecutive
Quarterly Dividend**

A dividend of seventy-five cents per share on the capital stock of this Company has been declared payable January 14, 1955, to stockholders of record Dec. 10, 1954.

EMERY N. LEONARD
Secretary and Treasurer
Boston, Mass., Nov. 15, 1954

SOCONY-VACUUM OIL COMPANY INCORPORATED

Dividend
No. 176



January
25, 1955

The Board of Directors today declared a quarterly dividend of 50¢ per share on the outstanding capital stock of this Company, payable March 10, 1955, to stockholders of record at the close of business February 4, 1955.

W. D. BICKHAM, Secretary



INTERNATIONAL HARVESTER COMPANY

The Directors of International Harvester Company have declared quarterly dividend No. 159 of fifty cents (50¢) per share on the common stock payable January 15, 1955, to stockholders of record at the close of business on December 15, 1954.

GERARD J. EGER, Secretary

ALLEGHENY LUDLUM STEEL CORPORATION

Pittsburgh, Penna.

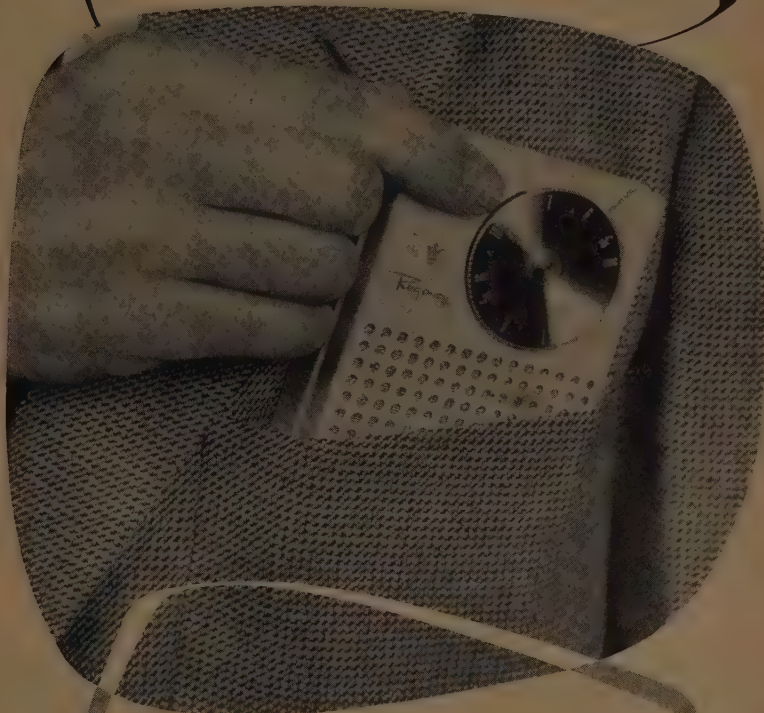
At a meeting of the Board of Directors of Allegheny Ludlum Steel Corporation held today, November 17, 1954, a dividend of fifty cents (50¢) per share was declared on the Common Stock of the Corporation, payable December 29, 1954, to Common stockholders of record at the close of business on December 1, 1954.

The Board also declared a dividend of one dollar nine and three-eighths cents (\$1.09375) per share on the \$4.375 Cumulative Preferred Stock of the Corporation, payable December 15, 1954, to Preferred stockholders of record at the close of business on December 1, 1954.

S. A. MCCASKEY, JR.

Secretary

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Why Research?

JOHN P. SULLIVAN

THE VALUE OF SELECTION through fundamental and effective investment research has been demonstrated during the past decade; this is becoming evident to more and more investors. Nevertheless, there is a tremendous educational job to be done to demonstrate this truth.

We as investment analysts are most frequently asked two questions: (1) What is our opinion on the outlook for business? (2) What is our opinion on the outlook for the stock market? Unfortunately, there are many investors who continue to believe that the key to successful investment experience is a correct prediction of the trend of business. This they proceed to translate into a prediction of the course of the stock market.

NO PRECISE CORRELATION

Historical studies of business cycles and the stock market do not reveal any precise correlation between the two, and, even aside from this very important factor, it is inaccurate to generalize when discussing either the business picture or the stock market, since there has been no specific pattern to either. We have only to look at the business picture as it existed in July of 1953.

At that time, the Federal Reserve Board index of industrial production stood at 137, an all-time peacetime peak. This index has become, at least in the public mind, a relatively accurate gage of business activity.

Based on this, it would seem that the country is now experiencing a very high level of economic prosperity. On an over-all basis this may be so. Yet it certainly would be difficult to convince persons engaged in the textile, coal, railroad equipment, shoe, liquor, and motion picture industries that the economy was booming since they have

in no way participated in this supposedly high level of industrial and business activity. As a matter of fact, many industries and companies are experiencing almost depression-type conditions.

HIGH LEVEL OF PRODUCTION

On the other hand, there were many fields of activity, particularly the heavy industries, that have enjoyed high level of production; the steel industry is a typical example. This may partially explain why we, as investment analysts, are more interested in the trends and conditions of individual industries than in a generalization about the business picture as a whole.

The stock market is another area where generalization may prove hazardous and costly to investors. For instance, the Dow Jones industrial stocks average is currently at an all-time peak. This measurement of the market has become, in the investor's mind, the standard measure of the over-all level of the stock market. It would be difficult to convince those investors who hold the estimated 40% or so of the more than 1,000 common-stock issues listed on the New York Stock Exchange that have failed to reach their 1946 highs, that they are participating in one of the greatest bull markets ever witnessed in the United States.

Of more significance, then, is the relative action of individual industry groups, some of which have failed to participate, to any important extent, in the current major market advance, while others have substantially outperformed both the market and other groups. This is an illustration of why it is preferable to discuss individual industry groups rather than the market as a whole.

That the trend of business does not necessarily determine

Table 1. Comparison of Gross National Product, Industrial Production, and Stock Prices, 1953 versus 1952

	% Change	
Gross national product	+5.4	
FRB index of industrial production	+8.1	
Stock prices	-5.6	

Per Cent Change by Selected Industry Groups			
Best Performers	% Change	Poorest Performers	% Change
Machine tools	+19.6	Rayon & acetate yarn	-41.5
Aircraft mfg.	+16.3	Autos (excl. G.M.)	-36.2
Electrical equipment	+16.0	Sugar cane producers	-33.8
Paints & varnish	+13.8	Textile & apparel	-31.8
Proprietary drugs	+13.5	Vegetable oil	-28.8
Casualty insurance	+12.7	Carpets & rugs	-28.2
Food chains	+12.4	Lead & zinc	-27.3
Dairy products	+11.3	Bituminous coal	-25.8
Meat packing	+10.6	Gold mining, Canada	-25.5
Aluminum	+ 9.4	Mining & smelting	-24.5

*Based on S&P 420 industrial weekly stock-price index.

the trend of the stock market, and that generalization about the stock market is of little significance, can be illustrated by Table 1. Here we see that, during 1953, the FRB index was up 8.1% over 1952, and the gross national product was up 5.4%, but, over the same period, the Standard & Poor's 420 industrial stocks average was down 5.6%.

BUSINESS ACTIVITY UP

In this period, then, business activity was up, and the market as measured by the S&P index was down. More important was the fact that, while the market as a whole showed a modest decline, there were 10 industrial stock groups (of the 80-odd constituting the S&P index) that acted contrary to the market and advanced by from 9.4% to as much as 19.6%. On the other hand, there were another 10 groups that registered declines ranging from 24.5 to 41.5%.

To illustrate the point further, Table 2 shows that, during 1954, while the business activity of the country was off as measured by the FRB index and the gross national product, the market as measured by the S&P index was up. Furthermore, whereas the market as a whole was up 44.6%, the 10 best-acting groups showed advances ranging from 65.6% to as much as 104.9%, and, among the 10 poorest-acting groups, one group was off 8.9%, while the strongest of these 10 was up only 17.8%.

NO SINGLE PATTERN

Since it is obvious there is no one pattern covering business activity as a whole, and no single stock market pattern covering market action of all issues, it becomes the function of the analyst to study trends and developments within individual industries and within individual companies; to study stock market groups individually, and each stock independently. It will be the wisdom of selection of industries and evaluation of individual issues that should determine investment results, not the general trend of business activity or of the stock market as a whole. It has been dem-

onstrated that, despite the advanced level of business activity and prices on the stock market, there have been ample opportunities to preserve, enhance, or lose capital.

A knowledge of the trend of business and the stock market alone is not a guarantee of successful investment. It is more important to follow individual industries, individual groups of securities, and individual issues. This by itself might lead an investor to the erroneous conclusion that, if one can predict accurately the general trend of an individual industry, this prediction may be translated into investment action with successful results.

THE STEEL INDUSTRY

Unfortunately, this is not so. The steel industry activity level and the market action of the steel group illustrate this. The steel industry in 1953 enjoyed a very high level of operations for many months, and the steel companies were experiencing a very high level of earnings. Yet, while these peak earnings were being reported, the steel stocks as a group acted relatively poorly.

It was not until the steel industry had declined to a relatively very low level of operations that the steel stocks came into investment demand and became market leaders. There was good reason for such divergent action. It might be simplified by saying that, during the months of highest activity, there was considerable doubt in investors' minds about the steel industry's ability to maintain prices and operating margins, in any transition period from a high to a low level of operations.

As the steel industry went through its transition without resorting to major price cuts, it demonstrated that operating margins could hold; consequently, it became apparent that any increase in the level of steel production would immediately be reflected in higher earnings. This, in turn, was reflected in re-establishment of confidence in and rise of market prices of steel equities. There were, then, basic investment reasons why the steel equities failed to reflect the high level of steel activity but now have regained in-

Table 2. Comparison of Gross National Product, Industrial Production, and Stock Prices, 1954 versus 1953

	% Change	
Gross national product	-	2.4a
FRB index of industrial production	-	7.5a
Stock prices ^b	+44.6c	

Per Cent Change by Selected Industry Groups			
Best Performers	% Change	Poorest Performers	% Change
Aircraft mfg.	+104.9	Brewers	- 8.9
Cement	+100.2	Tobacco	+ 3.1
Air transportation	+ 83.5	Ethical drugs	+ 5.5
Office & bus. equip.	+ 79.7	Soft drinks	+ 6.2
Roofing & wallboard	+ 70.1	5¢ to \$1 chain	+12.4
Shipbuilding	+ 69.0	Confectionery	+12.6
Mining & smelting	+ 68.2	Biscuit bakers	+16.9
Steel	+ 65.6	Dairy products	+17.1
Radiobroadcasting	+ 65.6	Apparel chains	+17.4
Paper	+ 63.9	Metal containers	+17.8

a Estimated.

b Based on S&P industrial weekly stock-price index.

c Through December 8.

vestment appeal. But the fact remains that, had an investor accurately projected the high level of steel operations and bought steel equities based on this projection, he would have obtained a relatively uninteresting investment result during the time the industry was operating at capacity levels.

On the other hand, had he accurately projected the decline, particularly the severity in decline, of steel operations, and sold stocks in anticipation of this, he would have been completely wrong market-wise. This suggests, therefore, that it is not sufficient merely to formulate an accurate projection of an individual industry trend. One must also have a proper knowledge of the forces at play within that industry, which may favorably or unfavorably influence investors' attitudes toward the industry as a group.

A study of the individual action of selected steel equities will show that it is important not only to choose the right industry; it is even more so to select the right company within the industry. While some of the steels have had spectacular profits, others have done only modestly well.

The substantial difference in percentage gains (69.3% spread) shown by the issues included in Table 3 vividly illustrates the point. The same kind of investment results may be found by an analysis of other groups and the individual issues within those groups. This further supports the point that in individual selection lies the key to success.

The past behavior of the business picture, particularly the rolling adjustment, industry by industry, in which some industries emerged from a period of low-level operations at a time when others were entering a period of decline in operational activity, may be expected to continue. The same may be true of the stock market. Groups that are popular today can become less so, while groups now unpopular will be restored to favor; consequently, the stock market behavior may be expected to be similar to the business picture: that is, characterized by a rolling readjustment.

If this past pattern of both the business and stock market is projected into the future, selection through investment research should be vital. Only through organized and effective investment research will investors be able to remain alert to changing conditions, and in a position to take effective investment action.

Many investors tend to overlook the fact that, during a bull market, selection may be most valuable. This is so because of the tendency of investors to move out of quality stocks, which have had spectacular rises, into depressed secondary issues of questionable quality, in order to keep participating in a rising market.

Though this temptation will be great on the part of the public, it will be the investment analyst's responsibility to retain the basic fundamental investment-research approach, and not relinquish it for temporary opportunistic advantages. This should not be taken to mean that one should not be opportunistic, for an aggressive approach to invest-

Table 3. Steel Stocks

	1953 Low	1954 High	% Change
Armco Steel	30 5/8	66 5/8	+117.6
U. S. Steel	33 1/2	70	+109.0
Inland	35 7/8	70 1/2	+ 96.5
Bethlehem Steel	50	97 3/4	+ 95.5
Allegheny Ludlum	25 1/8	43 7/8	+ 74.6
Republic	40 3/4	71 1/8	+ 74.5
Wheeling	30 1/8	49 7/8	+ 65.6
Jones & Loughlin	19	31 1/4	+ 64.5
National	40 1/8	59 1/2	+ 48.3

ment problems requires a happy tempering of long-term concepts with near-term opportunities.

It must be recognized that the handling or management of capital is far more likely to be successful if accompanied by the exercise of both research and patience. When basic changes are taking place within an industry or a company which will alter the investment characteristics of that industry or company, it may be years before this is fully recognized by the market.

There are industries today that have gained investment stature which not many years ago were characterized as purely speculative, and some issues that are today considered blue chips have emerged from within these groups. Contrary-wise, there are groups that were considered prime-quality investments that have descended into questionable investment stature by virtue of more recent performance.

One may be certain that some of today's popular blue chips will eventually lose investment stature, fall by the wayside, and produce losses for investors who believe that any investment security can be put away and forgotten.

It seems likely that the economic, political, scientific, and social changes that have been occurring in the past decade will continue to occur over the next decade or two, and could be so dynamic as to have profound effect on many of our leading industrial companies, which places even greater emphasis on selection through research.

The key to successful investment experience is selection, based on sound research. Research is only effective to the extent that it results in a fair percentage participation in those industries and companies that perform most favorably. No attempt to chart the precise future level of general business activity or to call the turns in the stock market can be a satisfactory substitute. There will always remain a margin of error in investment analysis, and even the most competent group of professional investment advisers will never be able wholly to avoid mistakes.

Investment guidance based on effective and fundamental research has proven more valuable in protecting the capital of investors than has any other device for selection. Those investors who, managing their own funds, believe all that is necessary for success is a knowledge of the trend of business and/or the stock market are likely to have a far less fortunate experience.

* * *

1870 . . . July 11 . . . Panic on the London Stock Exchange (War possibility between Germany and France).



Research Center of Pittsburgh's paint and brush division at Springdale, Pa.

NEW RESEARCH CENTER underscores Pittsburgh's continuing program of progress and growth

In this new and modern building the basic and applied research staffs of Pittsburgh Plate Glass Company's Paint and Brush Division work with new chemicals, new tools, and new techniques to develop the "perfect" coating or plastic. This may be a finish for a television cabinet, a new paint for the living room wall, or a resin for molding or casting into some highly useful end product.

Featured at the new Research Center are facilities for cooperative research with customers. With these facilities, specially tailored coatings are developed for everything from metal containers to major electrical appliances. "Pittsburgh" also works closely with customers in developing the best ap-

plication methods for these coatings.

To date, "Pittsburgh's" research program has been particularly effective in discovering and developing new ingredients which make modern surface coatings the best ever produced. This program has also been very successful in creating the highly versatile Selectron plastic.

Made from the new high polymers (also used in making paint), Selectron has characteristics of light weight, strength, permanence, and beauty. As a reinforcement with "Pittsburgh's" Fiber Glass, it is found in products ranging from fishing rods to molded furniture. Its markets are constantly expanding.

The new Springdale Research Cen-



A feature of the Research Center is the pilot plant where products are tested for commercial production.

ter is dedicated to the creation and experimental production of new and better paints, varnishes, lacquers, enamels, and plastics to maintain "Pittsburgh's" traditional leadership in the surface coatings field.



PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Growing Glass Fibers

JOSEPH STUART MITCHELL

LITERALLY SPUN by a platinum "worm," the fabulous glass fiber has a future unlimited. Naturally there are problems such as cost and the battle to supersede other materials. But the fruits of research will make this little fiber a mighty competitor with aluminum, cotton, synthetics, wood, steel, the new wonder—titanium, and a host of other materials.

During World War I, the Germans found that glass fiber, first drawn by Edward D. Libby in 1893, was useful for insulation, but it was not until 1942 that its dynamic possibilities became apparent.

A DEPRESSION BABY

The glass fiber industry in the United States was a depression baby, born in the early 1930's when the glass industry was attempting to find new uses for its products. In 1932, the first pilot plant was established. In this plant, glass was reduced to a molten state by a resistance element and pushed through a precious metal spinneret to form glass fibers.

After six years of research and limited production, the Owens-Illinois Glass Company and the Corning Glass Works, who had been leaders in the research, formed the Owens-Corning Fiberglas Corporation. For almost ten years Owens-Corning Fiberglas Corporation in reality was the glass fiber industry in the United States.

A milestone in the industry occurred in 1942 when, born of military necessity, the idea evolved of using fiberglas threads as a reinforcing agent with polyester resins. This opened a field to the industry that is still inestimable.

In 1944, a second company, Glass Fibers, Inc., was formed and entered the industry. It began operations in 1947, using a patented, slightly different process from that employed by Owens-Corning Fiberglas Corporation.

As a result of a suit instituted by the U. S. Government in 1947 and terminated in 1949 by a consent decree, Owens-Corning Fiberglas made its process patents available to all qualified companies, some on a royalty-free basis. By the middle of 1954, Owens-Corning Fiberglas Corporation had licensed certain companies to use the

Owens-Corning patents and processes. Among those licensed were Pittsburgh Plate Glass Company, Gustin-Bacon Manufacturing Company, Ferro Corporation, and Libby-Owens-Ford Glass Company.

In the latter part of 1954 Libby-Owens-Ford Glass Company and Glass Fibers, Inc., jointly announced the formation of Glass Fibers Corporation and the merger of Glass Fibers, Inc., and the Glass Fiber and Corrugulux divisions of Libby-Owens-Ford Company into the new corporation. The emergence of Glass Fibers Corporation, with strong Libby-Owens-Ford backing, highlights the fact that at present there are at least two patented processes for drawing glass fibers. The oldest process is owned by Owens-Corning Fiberglas and the more recent owned by Glass Fibers Corporation.

USE OF PLATINUM FURNACES

Both processes require the use of platinum furnaces or melting pots. Platinum is used in making the pots because it is the cheapest metal now known that can withstand the tremendous heat necessary in the melting process and drawing crucibles. The amount of platinum used up in the process is negligible. The drawing crucibles are made of solid platinum and require around 100 ounces, costing about \$93 an ounce. Rhodium could be used, but its cost is about 30% higher than that of platinum.

Basically, the differences between the two processes is in the size, shape, and heating of the melting and drawing crucibles. The Glass Fiber Corporation pots are smaller than the Owens-Corning pots, and the induction method of heating the pots is used, whereas the Owens-Corning process uses the resistance method of heating. The Glass Fiber Corporation people claim that their process makes for more even heat in the pots and for a more even fiber. How important this may be in the manufacture of end products is, of course, debatable.

Both processes can use the direct- and indirect-melt method of providing molten glass (in the indirect-melt method, glass is first formed into marbles which are remelted in the pots; obviously, the direct-melt method eliminates the marble-making process, and this is a cost-saving factor).

Table 1

	Owens-Corning Fiberglas Corporation	Glass Fibers Corporation*
The public	25.4%	35.4%
Owens-Illinois Glass Co.	33.4
Corning Glass Works	33.4
Libby-Owens-Ford Co.	53.0
Officers, directors, etc.*	7.8	11.6
Total	100.0%	100.0%

*Partly estimated.

*Not including options which when exercised will increase these percentages and reduce the other percentages.

Table 2

Year	Estimated Industry Sales, millions of dollars
1948	\$ 53
1949	54
1950	85
1951	108
1952	130
1953	150
1954	167

From the melting pots the molten glass (high-line borosilicate glass) is pushed through a bushing, with usually 204 orifices, forming 204 filaments from 2/10,000 to 4/10,000 of an inch in diameter, which are collected into a strand as it merges from the bushing and sprayed with a sizing to cohere the filaments and to lubricate the fibers to prevent abrasion. Three basic fibers are made as they come from the bushing:

1. Roving—a heavy glass cord of 60 strands which are cut to form short fibers for use in preform machines or molding compounds.
2. Filament yarn—a textile process whereby the fibers are drawn on high-speed winders, twisted, and plied.
3. Staple yarn—the fiber is sprayed with compressed air as it comes from the bushing and is then made into yarn by the same process as cotton yarns.

Direct labor required in the manufacturing of the glass fiber is quite small, owing to a high degree of automation. Essential in the formation process are even heat in the pots and humidity-temperature control as the fiber comes from the bushing. The process and methods described here are on the basis of present "know-how" of mass production of glass fibers and are quite efficient.

OWNERSHIP BY INVESTING PUBLIC

It is interesting that the investing public first had the opportunity of direct ownership in glass-fiber-producing companies when Glass Fibers, Inc., common stock was initially available in 1948 at \$10 per share; Owens-Corning Fiberglas Corporation common stock originally became available in 1952 at \$35.75 per share. Even today it is difficult for the public to own much of these two companies, mainly because the founding companies and officers and directors have such confidence in their future that they themselves hold large blocks of stock. With the formation

of Glass Fibers Corporation, Table 1 shows about how ownership of the two companies is divided.

The people, who should know, certainly believe in the growing glass fiber! The industry has come a long way since Owens-Corning Fiberglas Corporation sales of just under \$4 million in 1939.

SALES JUMPED TO \$58 MILLION

By 1944, Owens-Corning's sales had jumped to \$58 million, with the military taking over 90% of the output. With peacetime adjustments, sales declined to a low of just under \$33 million, and, since then, steady and strong growth has taken place with industry sales. Today sales are more than 2½ times the World War II peak. Industry sales since 1948 are estimated approximately as shown in Table 2.

From available data and estimates, it appears that the industry's business is presently divided about as follows:

Owens-Corning Fiberglas Corporation*	80.0%
Glass Fibers Corporation*	7.2
Gustin-Bacon Manufacturing Company	6.0
Pittsburgh Plate Glass Company	4.0
Miscellaneous	2.8
	100.0%

*Exclusively engaged in the glass fiber and allied products business.

The growth in industry sales until recent years has occurred mainly because of increased utilization of glass fibers in the building and appliances industries. But now research is developing so many uses for glass fibers that they are no longer completely dependent on cyclical industries. A breakdown of industries sales shows these changes (Table 3).

There are many potential glass-fiber products. At this stage of research the product with the greatest potential is

Table 3

Glass-Fiber Product	Typical Present Use	Main Consumers by Industries	Estimated % of Industry Sales
Heavy wool	Thermal insulation & acoustical products	Building Appliance	53.0
Textile	Industrial & decorative fabrics, & as reinforcement	Electrical Textile Paper Rubber Plastics Military Aircraft Furniture	25.0
Light wool	Feather-weight thermal & acoustical products	Military Aircraft Appliance	12.0
Microfibers	Commercial filters, electrical coils, industrial respirators, etc.	Electrical Appliance Specialty	5.0
Mat	Plate separator for storage batteries' protective wrapping, etc.	Electrical Pipe line Building Plastic	5.0

fiber-glass-reinforced plastic. Glass fibers are ideal plastic reinforcement because of their properties.

Glass fibers have no cellular inner structure and can not absorb water, but they can be wet on the surface. They are not affected by weak alkalis, nor by acids in most concentrated forms, with the exception of phosphoric and hydrofluoric acids.

Glass fibers will not burn but will melt and produce carbon. The strain release point of glass is 700 degrees Fahrenheit. The self-abrasion point is very high, but, when the fibers are properly treated or laminated, this is substantially reduced.

ONLY LIMITATION THE RESINS

Apparently the only limitation of glass-fiber-reinforced plastic is in the resins. Since 1942, polyester resins have been the main resins used in making glass-fiber-reinforced plastic. Although this has developed into a fair-sized business with wide application, still polyester resins have not been able to use fully all the remarkable properties of glass fibers, mainly the high strain-release point of glass.

However, a resin mixture of maleic alkyd and triallyl cyanurate with glass-fiber reinforcing has produced a plastic that withstands a bending force of 19,000 pounds per square inch after it had been heated at 500 F for 8 days. Although glass-fiber-reinforced plastic using polyester resins has shown excellent growth, resins capable of using the full properties of the fiber will far surpass other plastics and many metals.

Using the maleic alkyd and TAC resin, this glass-fiber plastic can stand higher temperatures better than both aluminum and magnesium, and is 50% stronger than the next best plastic. Experimentally, items have been molded, reinforced with glass fibers using silicones with a strain point of 900 F. This compares with a strain-release point of 800 F for titanium; titanium sponge cost is in the \$4.00 to \$4.50 price range per pound, and between \$10 and \$20 a pound for rolled or processed titanium.

Glass-fiber-reinforced plastic costs from 29 cents to \$2 a pound, depending on material content. Because of the hardness of glass-fiber-reinforced plastic, it can now be used effectively and efficiently for templates, tools, jigs, and dies.

It certainly appears that glass-fiber-reinforced plastics have entered an era where they can threaten aluminum, magnesium, titanium, and other plastics and metals. The growth of glass-fiber-reinforced plastic is indicated by Table 4.

Remember also that any chemical company now producing alkyd resins can possibly also produce a resin mixture of maleic alkyd and TAC. About 377 million pounds of alkyd resins were produced in 1953.

Glass-fiber-reinforced plastics have now reached the stage of certainly not whether they will grow, but how far

Table 4

Year	Estimated Sales of Polyester Resins, lb	Estimated lb of Glass Fibers
1949	7,000,000	4,000,000
1950	9,000,000	5,300,000
1951	14,000,000	8,000,000
1952	19,000,000	11,000,000
1953	23,000,000	13,400,000
1954	27,000,000	15,700,000

and how fast! Glass-fiber-reinforced plastic probably now accounts for about 10% of glass-fiber sales, whereas two years ago it accounted for only about 5%. In the same period of time, glass-fiber industry's sales have increased about 28%.

From the growth trends indicated, there is every reason to believe that industry sales in the next five years, at the very least, will double. On the basis of indicated interest in the fiber, and especially as a plastic reinforcement, there is every possibility that it can easily be a \$1 billion annual sales industry in the near future, probably limited only by an adequate supply of "know-how" labor and plant capacity. Fiber-glass-reinforced plastic is being given more attention in military research and development than any other material.

THE COST FACTOR

The cost factor, always a problem with new products, is rapidly being overcome. The problem of abrasion, which has long plagued the glass fiber in textile application, is no longer a problem when it is used as a plastic reinforcement.

How many materials have the characteristic of glass-fiber-reinforced plastics, and how many can provide all these properties that they possess? Although of high strength, glass-fiber-reinforced plastic can be molded by mass-production methods and will not shatter; rot, water, and mildew cannot hurt it. It can be sawed, drilled, nailed, sheared, punched, sanded, painted, and polished; has high dielectric strength and low thermal conductivity; and is about one-fourth the weight of but comparable in strength to steel.

Quietly the future giant is stirring. Look what the latest count shows:

1. There are at least nine manufacturers of glass fibers.
2. There are not less than 21 weavers of glass fibers.
3. There are 21 chemical companies producing polyester resins.
4. Over 125 firms are now fabricators of polyester glass-fiber-reinforced plastic.

The growing glass fiber is going to surprise a lot of people in many businesses and in many industries.

1870 . . . August 18 . . . Bank of France suspends specie payments.

September 4 . . . French Republic proclaimed.

SUPERIORITY...



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If You Are So Smart, Why Are You Not Rich?

PHILIP K. ANTHONY

THERE ARE A NUMBER OF ANSWERS that a security analyst might make to this question. In many instances the answer would be: "As a matter of fact, I am wealthy enough. In more cases, one might hear the plausible explanation: "I had no capital to begin with."

For an older man, whose experience ran through several investment cycles, one might suspect an obvious rationalization. For we all know of big-oak fortunes that grew from very small acorns indeed. But this explanation could be satisfactory for a young man in our business.

Fortunately for most investment analysts and advisers, this rude though pertinent question is seldom asked, even though it might be thought. Perhaps it should be asked more often by partners and executives in charge of research in brokerage, investment banking, investment trust, and investment counsel firms.

ANALYSTS WITH PRACTICAL EXPERIENCE

It is already known that the astute research managers prefer to engage analysts who have had practical experience managing their own investments. The security analyst may be a keen student and finder of facts, a perceptive reporter, a lucid writer, and have other qualities, but the art of successful investing requires more than this. Unless the analyst has developed the faculty of decision, besides the courage of backing his own judgment, and has lived with daily problems of the investor, including the mistakes that inevitably arise in dealing with futures, his approach to investments is likely to be from the ivory tower.

Since private fortunes among young analysts are not much more common than in other walks of life, what can the research manager do to improve the effectiveness of his security analysts? What may be done to upgrade the work of the research department to make it more profitable for both the firm and its clients?

To those few who have the vision and courage to undertake it, a "pilot plant" method may be suggested. This would involve setting aside a portion of available capital for the management of those engaged in research.

THE RESEARCH DEPARTMENT

In a large firm, as much as \$50,000 might be allotted to the head of the research department, to invest and reinvest with full discretion, but within scrutiny of management; and similarly, \$25,000 each for a few senior analysts, and \$5,000 to \$10,000 for junior men. Direct financial success in this program could provide an attractive return to the firm on the funds employed, and a participation in the profits might well supplement or even replace the regular annual bonus for those involved. Such a program might be well worth while, even if financial results were modest.

This would indeed be "research in research." Intangible gains could be impressive. Younger men might be brought to the firing line sooner, and advanced faster. Older men might benefit from the more practical experience.

The over-all research department effort in developing new and practical ideas for the firm and its clients would unquestionably be made more creative, and results of the investment programs should form a sound basis for promotion of personnel and development of partnership and executive material. Further, success in this endeavor would clearly enhance the value of the firm and its employees to each other, increasing loyalty and decreasing turnover.

ADVANTAGES OF PROGRAM

Are there serious dangers in such a program? In the first instance, risk would be minimized by a careful selection of personnel, since no one would be employed who was not considered potentially capable of managing funds. Second, without greatly affecting the freedom of action of the analyst, certain ground rules could be enforced; for example, wildcat and similar ventures would be excluded from the field of investments, adequate diversification would be required, and, in general, the commitments made, however speculative, would be of a type usable to a large extent by the firm and its clients.

At least one program of this type already in effect has been most revealing in developing unseen values in research department work, and further cautious experimentation will undoubtedly take place.

* * *

1871 . . . February 2 . . . Paris surrendered. Fears of high money rates owing to the severe terms of German indemnity demands.

September . . . Financial depression in Germany (end of month and panic in London).

October . . . Financial panic in France.

October 19 . . . German gold standard announced.

The ANALYSTS JOURNAL

PUBLISHED
by
THE
NATIONAL FEDERATION
OF
FINANCIAL ANALYSTS
SOCIETIES
INC.

Contents

Articles and transcripts of speeches of particular interest to
Security Analysts.

Publication Dates


The Analysts Journal is published in February, May, June,
August, and November.

Subscription Rates

\$5.00 per year in the United States.
\$5.50 (in New York funds) per year outside the United
States.

Individual Copies

\$1.50 in the United States.
\$1.75 (in New York funds) outside the United States.

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The New Capitalism

STEPHEN L. JOSEPH

WE AS SECURITIES ANALYSTS recognize the impact of worldwide political developments on the securities markets. Only in an atmosphere in which enlightened capitalism can flourish will private enterprise expand. This, in turn, will have a profound influence on stock prices.

Today, the very foundations of capitalism are being threatened, with consequent disastrous potentials for securities prices. The securities analyst not only is in a position to understand the implications of these political developments, but also may be morally obligated to assist in the battle against the forces attempting to undermine the American system.

In the course of his study of relative security values, the pragmatic securities analyst examines the accounts and operating procedures of many companies, in some instances encompassing a sufficient variety of corporations to enable him to obtain a critical view of a cross section of industry.

We do not wish to impress our particular type of civilization on other countries, but it is important that peoples throughout the world should know that we represent an ideal worth fighting for. The trend appears to be in the opposite direction. The neutralist countries are drawing further away, and some allies are wavering.

In this respect, the securities analyst—a development of the past twenty-five years—holds a rather unique position. Frequently, he can be on intimate terms with the managements of competitive concerns. Thus he may be in a better position to learn of industry developments than those engaged in manufacturing or trade.

This enables the securities analyst to detect general industrial trends before the academic economist, who is less closely associated with everyday business life, becomes aware of them. Should the securities analyst exercise this advantage to a greater degree for the purpose of social critique as well as for purposes of private gain, the benefit to the community might be considerable.

THE SECURITIES ANALYST A STUDENT OF CAPITALISM

The subject of most absorbing thought today is the struggle between Communist dictatorship and capitalist democracy. The stronghold of the former is, of course, Russia, while the United States is the great fortress of political democracy. Between these two, however, are governments with shades of opinion varying from friendly to dubious to neutral or hostile. Although the Governments of the Russian satellite nations are naturally pro-Soviet, it is impossible at this time to learn the true inclinations of all peoples of those countries.

Although it is quite conceivable that the outcome of this titanic struggle may have to be determined on the battlefield, it is also not unlikely that the way of life that holds the greater appeal for the mind of man will ultimately be triumphant. It is probably the vast neutralist

areas that will, in the end, balance the scale one way or the other. A glance at the results in influencing the mind of man since the end of World War II is not encouraging.

It is time that the capitalistic system as it is practiced in the United States be explained, to demonstrate its flexibility and to point out how it is working for the greatest good of the greatest number. To do this, it becomes necessary to refute the arguments of those who are uncertain as to whether they wish to ally themselves with a capitalistic nation.

It is to the study of the current tendencies of American capitalism that the securities analyst may be particularly adapted.

ECONOMIC DEMOCRACY IN THE UNITED STATES

One of the most common criticisms of a capitalistic democracy is that it provides only political but not economic democracy. The corporate enterprise is operated by means of a chain of command like an array from the top down. The worker (the private) or the foreman (the sergeant) has nothing to say in the operation of the business where he spends so much of time and on which the standard of living depends. It is further contended that the economic power of the corporation is such as to place it virtually beyond the pale of control of a popularly elected government.

A study of the American industrial formation reveals that a political democracy is capable of attaining constantly improving benefits for those who exercise the vast majority of the votes—the worker and farmer. Although this may be attained gradually, step by step, it is accomplished without sacrificing the incentive to efficiency and the development of new methods and products which the profit motive provides.

Under such conditions, the worker does not deem himself to be oppressed through lack of economic democracy. A business cannot be operated as a democracy, with the majority rule employed for each decision to be made.

Would a machinist in a large automotive plant more closely identify himself with management if the tools of production were owned by the state? Probably not! And in such a vast enterprise as a state-owned organization, the individual worker would be lost even more than in one of our giant privately owned corporations—lost in a maze of bureaucracy and red tape.

But economic democracy is being approached to an increasing extent year by year, as is witnessed by the improving standard of living.

The income tax has been the greatest single factor in the trend toward the leveling of incomes. Indeed, this has been carried so far as to warrant a current modest reversal in the interests of the preservation of individual enterprise.

Inheritance taxes have accomplished the dual goals of raising revenues and reducing the size of estates that can

be transferred from one generation to the next. While not extinguishing the incentive for the accumulation of wealth for the benefit of descendants, death taxes have done much to create "equality of opportunity." Students of the weight of taxes on industry understand its importance and the manner in which plant economies and automation have developed.

Social security, providing for care during illness or accident and in old age, with benefits to survivors in the event of death, are measures designed by the state to provide economic security while maintaining political democracy. The rapid growth of corporate-sponsored pension and profit-sharing funds has been accomplishing the same ends to an even greater degree and in a more salutary manner since here the influence of the state is avoided. Growth of such funds is so great as to play a major role in the securities markets as investment outlets for the funds are selected. All analysts understand the influence of funds on market moves.

The dominant position of labor unions in American economic life is generally recognized. The fact that labor leaders can sit down with the highest level of management of the largest corporations and bargain (and sometimes almost dictate terms) shows clearly that labor has a mighty voice where its interests are concerned. One fine source of our economic strength is the mass market for mass production of our factories. This is a result of the high level of wages paid by factories.

Antitrust legislation has been another example of the power of a political democracy over economic power. Opinion may differ as to the advantages of preventing the development of enterprises large enough to diminish competition, but at least it must be conceded that this is a clear demonstration of the power of the state over business.

CURRENT TRENDS TO ECONOMIC DEMOCRACY

In addition to these developed trends toward economic democracy, there are others in various stages of early growth within our flexible economy.

A deplorable, but thus far unavoidable, characteristic of the current era of mass production is the substitution of the machine for the craft worker. The performance of single repetitive operations, to which millions of factory workers have been reduced, is an important development of the machine age.

It makes the man the slave of the machine and widens the gap—at least so far as type of work is concerned—between management and labor. This would be true, however, in any type of mechanized society—capitalist or socialist. Yet mechanization has brought its compensation in the form of a reduced number of hours worked per day and fewer days per week. This trend is likely to be continued and even accelerated.

Automation, sparked by the incentive to reduce cost in the interests of increased profits, has put us in a new era of substantially increased mechanization. Jobs that can be most easily supplanted by the machine are just those that are most repetitive and monotonous in character. The highly skilled and highly paid worker of the not-too-distant future who sits by a group of dials supervising an entire or a large segment of a manufacturing

operation will take greater pride in his work than the individual operator on the former assembly line who merely turned a screw on each item as it passed him by.

It is more than a coincidence that the development of automation is being initiated in the United States. In a noncompetitive atmosphere, the desire to initiate improvements does not flourish.

There are some who are concerned over the reduction in employment which automation entails. Experience has shown that these fears are without foundation. It is only by such means that the workingman and society in general can better their lot.

Reduced hours of labor, expansion in the total volume of production which lowered costs will permit, and the growth of new industries will lead, as they have led in the past, to new peaks in the number employed. Jobs will be more interesting and more lucrative. Enterprising corporations with competent research staffs will present opportunities.

Management is becoming increasingly aware of its responsibilities, to create profits, not only for stockholders, but also for employees, customers, and the community. This is particularly true of the large corporation which more and more is adopting the attitude of an institution in its managerial approach.

Consideration is given to long-term economic trends and consumer needs; huge sums are frequently spent on fundamental research which may or may not have ultimate commercial applications; projects are undertaken in behalf of the Government at little or no immediate profit, such as some military or atomic energy contracts; and, in general, the place of the corporation in relation to its environment is a paramount consideration in managerial plans. This is a far cry from the much caricatured rampant profit-seeking capitalism.

POLITICAL DEMOCRACY

Political democracy is increasingly evident within the corporate structure. Stock ownership is becoming more diffused throughout the community. Indeed, management of many a concern proudly announces each year the extent to which the number of the company's stockholders has increased. There are several factors to augment this trend.

First, the high standard of living of the "average" man is placing him in the position of being able to save funds in excess of his daily expenditures and thereby to accumulate the wherewithal to make the capital investment that the purchase of stock involves. Company pension and profit-share plans and union funds are more organized methods for labor's participation in ownership, and these are growing rapidly.

At the other end of the scale, income and inheritance taxes are reducing the ability of the wealthy to increase or even retain ownership. As any investment banker can tell, many large stock offerings to the public are directly ascribed to the necessity of placing estates in liquid form in anticipation of death duties.

The very size of many corporations makes it difficult for any individual or group to possess sufficient stock to exercise absolute control. Although direct ownership of a small percentage of a company's stock, plus the proxies that the

management can secure from the many scattered, small stockholders, is generally sufficient to assure control, such control is tenuous and conditioned on the approval of the small shareholders. Recent experience clearly demonstrates that it is quite possible for an outside group to unseat management if the small shareholders are dissatisfied and are willing to give their proxies to the insurgents.

It is not for this reason alone that management is becoming increasingly sensitive to the pressure of minority shareholders and the investing public in general. The likelihood that, at some time in the future, any growing enterprise will have to go to the public market to obtain funds with which to finance expansion, or for other purposes, prompts the decision to maintain a continuing favorable relationship with the large body of the investing public.

This is reflected in the more complete, and sometimes elaborate reports that corporations issue to shareholders, and in the cordial treatment that is accorded securities analysts by management. All this is in excess of any legal requirements for the dissemination of information imposed by the Securities & Exchange Commission, other governmental bodies, and securities exchanges.

A review of these developments leads to the conclusion that, within the framework of our political democracy, we are approaching economic democracy, along numerous routes. This is being achieved without sacrifice of the drive of the profit incentive and without bloodshed.

CAPITALISM AND THE BUSINESS CYCLE

Another general criticism of capitalism is that it is subject to wide cyclical fluctuations in business activity, with consequent unemployment, waste, and suffering. The experience of the 1932 depression did much to fortify this school of thought.

Many of the economic ills of the past decades can be ascribed to the disturbances caused by wars, but the control of the business cycle is a problem with which we are still wrestling. Nevertheless, much progress has been made, and the outlook is encouraging.

Maintenance of full employment, or a level of employment not too far from the maximum, has come to be regarded as a function of Government by conservatives and liberals alike. The extent to which the economic doctrines of Keynes are practiced in the United States is really amazing, considering how recently they were formulated. Full employment is to be obtained by the quantitative control of the supply of credit by the central bank—in our country, the Federal Reserve Banks—and by deliberate creation of deficits, balances, or surpluses in the budget of the Federal Government.

Considering that this philosophy of economics has been practiced for but about twenty years, which encompassed a major war and other periods of stress, it may be said to have worked remarkably well. It is true that pursuit of this policy has, thus far at least, been accompanied by an inflation of prices, which, if continued, could carry us into the abyss; and it is also to be proven whether or not a satisfactory level of employment could be maintained without Government spending for armament and related purposes.

Nevertheless, the results to date are encouraging, and it is not too sanguine to anticipate that the problems will be

solved as they arise, without a complete change in our system and in our way of life. After all, the core of the difficulty is the balance between supply and demand, and the dynamics of production are such as to pose a problem of adequate distribution in any system, whether the means of production be privately or publicly owned.

Under our present system, the Government has assumed the function of guiding the over-all trends of the economy, leaving the relative movements of individual industries or groups, for the most part, unregulated. Under such a system, it is inevitable that there be at least minor fluctuations in prices and business conditions, since, only by this means, can businessmen know how to guide their future planning. Complete rigidity is both undesirable and impossible.

The significance of the wide dissemination of business statistics of all types during recent years and the increasing attention and reliance businessmen are placing on this in formulating future plans are not, perhaps, fully recognized. Such information is made available by governmental agencies, trade associations, economic services, studies of corporations, for their own benefit and for others.

The chief argument in favor of central planning is that it can be accomplished on a more intelligent basis and that it is superior to the consensus of many individuals operating independently. This was formerly true to a much greater extent than it is at present.

Today, the average businessman has a wealth of statistics at his disposal, to help him in reaching decisions, such as whether or not to expand plant or to increase or reduce inventories. Trends, once under way, can be rapidly detected by the business public at large and the necessary countermeasures taken. Indeed, some of the recent industrial recessions have been so widely heralded in advance that their actual occurrence was much milder than might otherwise have been so. As industrial economists improve their forecasting methods and as use of the data they provide becomes more and more common practice, the need for governmental planning should grow correspondingly less.

THE NEW CAPITALISM AND IMPERIALIST WAR

A condemnation of capitalism is that mass production leads to colonialism and imperialism as the more highly developed nations seek greater control over the outlets for their products and their supplies of raw materials. Finally, this will lead to destructive wars among the major capitalist nations as they strive to wrest the undeveloped areas from one another. It is then that the Communist countries can gain control. The colonial developments of the nineteenth and early twentieth centuries are still powerful factors causing suspicion of capitalism, particularly in the Asiatic mind, while the increase in world influence of Russia following World War II would indicate to some that the original tenets of Communism are, in this respect, valid.

We have developed our capitalist economy to a high degree of mass production. This has been made possible by the creation of a vast domestic market, through payment of high wages and, to a smaller degree, by successful competition of American products in the world markets.

World Wars I and II were fought to preserve our way of life and to prevent other powers from becoming dominant; our territorial gains were nominal. The history of the United States is a vivid example of the fact that colonialism and imperialism are not the necessary ingredients of which capitalism is made.

Among those nations that were great imperial powers, the trend is strongly in the direction of colonial divestment. The disintegration of the British Empire and the transformation of those nations remaining within the British sphere into a commonwealth are the outstanding example of decolonialization. The independence obtained by the Dutch East Indies and the reduction in the French Empire are other major examples of this trend.

The perhaps surprising aspect of this development is the degree of prosperity that can be obtained in the mother countries, in the face of the losses of territory. Germany, which not only lost all its colonies in World War I but also was itself split in two in World War II, is currently enjoying remarkably favorable economic health, in the capitalist West German segment.

It must be quite clear to any reasonable person that colonialism, except for the new type of Communist expansion, is on the wane. Though the threat of Communist influence may be hastening the movement to grant independence to the peoples of the economically more backward areas, it is probable that such a movement would occur in any event owing to greater communication and the spread of education.

As currencies become increasingly convertible, one into the other, and as tariff barriers are demolished, industries in such areas of large population as Europe will be able to enjoy mass local markets similar to those enjoyed by the industries within the United States. The old argument that imperialism is a necessary concomitant of capitalism is being refuted by the march of events. As imperialism disappears, there will be no grounds for so-called imperialist war. Socialism or communism is not required to achieve this goal.

PRIMARY STRENGTH IS FLEXIBILITY

These, then, are some of the arguments in favor of the new capitalism, as it is practiced today in the United States. Its primary strength is its flexibility—its ability to adapt itself to changing conditions. It would be well if we made greater effort to let the rest of the world know about it, to explain how we are progressing so they may adapt our system to their individual needs.

In this way, the securities analyst can, by understanding and fairness, help the preservation of a system in which privately owned business will be permitted to advance, in reflection of the growth of our economy through an increasing population and a constantly improving standard of living. If, therefore, we can overcome the threat of communism, the analyst will not only be helping society, but will also be an aid to himself. Forecasting becomes easier when goals are definite and when a free society permits free enterprise.

* * *

1872 . . . February 8 . . . Panic on London market.

March . . . Great speculation in Erie shares in London.

August 1 . . . French National Loan—success.

1873 . . . May 10 . . . Panic in Vienna and German Bourses . . . many failures
in Vienna.

September 5 . . . Final payment of French indemnity to Germany.

October 2 . . . Large shipments of gold to New York from England.

November 7 . . . Bank of England rate 9 per cent (panic price).

1874 . . . November 16 . . . Bank rate raised in London on account of drain of
gold for France.

1875 . . . October 7 . . . Financial collapse of Turkey.

1878 . . . March 29 . . . Russian bonds drop . . . semi-panic in England.

1882 . . . January 26 . . . Panic in Lyons, France.

July 6 . . . London stock exchange depressed.

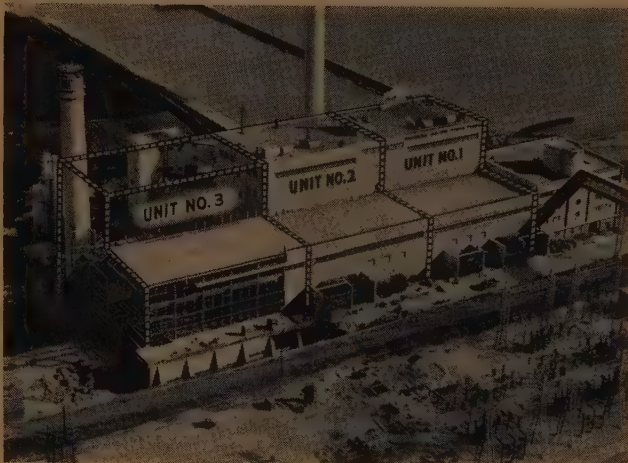
Now -- on the job -- the SECOND UNIT at Oak Creek



ORK

Another important increase in power availability for the farms, homes, stores, business institutions and industries of our operating area was made in 1954. The addition of a second 120,000 kilowatt generating unit at our Oak Creek plant increased the dependable generating capacity of our system to 1,132,610 kilowatts. Construction of a third 120,000 kilowatt unit is well under way.

The rapid growth of the Oak Creek plant is typical of the pace at which our plants must be expanded to keep ahead of continually mounting demands for more electric service. Continued investor confidence enables us not only to build plants like Oak Creek but to maintain and expand the vast network of substations, transmission and distribution lines necessary to serve this area today . . . and tomorrow.



WISCONSIN ELECTRIC POWER COMPANY SYSTEM

ELECTRIC BOND AND SHARE COMPANY

TWO RECTOR ST., NEW YORK 6, N. Y.

Common Stock Dividend

The Board of Directors has declared a dividend, subject to the approval of the Securities and Exchange Commission, on the Common Stock, payable December 28, 1954, to shareholders of record at the close of business November 26, 1954. The dividend will be payable in shares of United Gas Corporation Common Stock at the rate of 2.2 shares for each 100 shares of Electric Bond and Share Company Common Stock. No scrip representing fractional shares of United Gas Corporation Common Stock will be issued to shareholders. The Company proposes to arrange for the Company's dividend agent to handle fractional share equivalents for the shareholders.

B. M. BETSCH,
Secretary and Treasurer

November 18, 1954.

Manufacturers of



Wall &
Floor
Tile

AMERICAN ENCAUSTIC TILING COMPANY, INC.

COMMON STOCK DIVIDEND

Declared February 4, 1955

15 cents per share

Payable March 3, 1955

Record Date February 24, 1955

America's OLDEST Name in Tile

American INVESTMENT COMPANY OF ILLINOIS

97TH CONSECUTIVE DIVIDEND

A regular quarterly dividend of 40 cents a share was declared on the common stock, payable March 1, 1955 to stockholders of record February 15, 1955.

HARRY W. HARTLEY
Treasurer

February 1, 1955

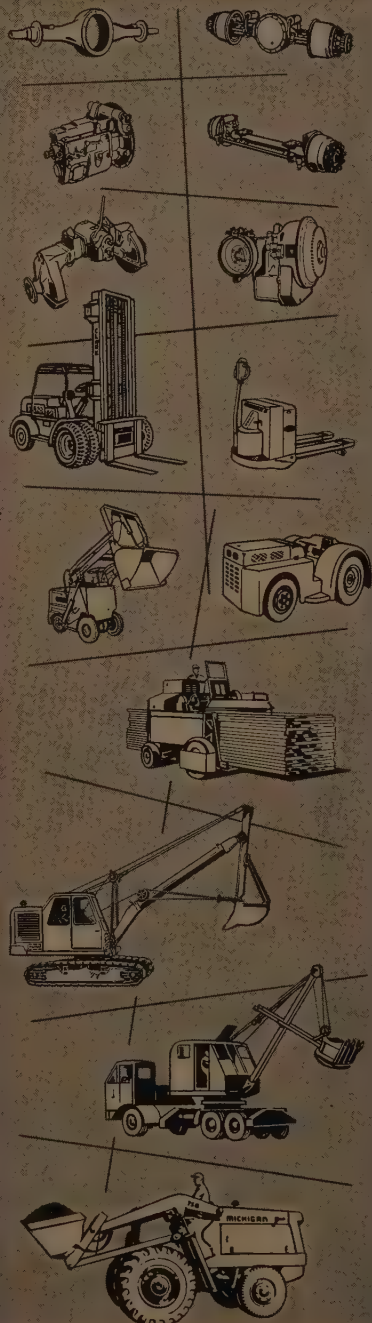
Financing the Consumer through nation-wide subsidiaries — principally:



Public Loan Corporation
Domestic Finance Corporation
Loan Service Corporation
Ohio Finance Company
General Public Loan Corporation

CLARK EQUIPMENT COMPANY

Moves steadily toward greater leadership



HERE IS a business unique in this respect:

- its end-products — materials handling and construction machinery — constitute by far the largest user of its own primary products — torque converters, transmissions, axles and complete power-trains for transmitting engine horsepower to wheels.

Furthermore, those final end-products are *better machines* because from engine to tires their power transmission equipment is Clark-engineered and Clark-manufactured.

That to us is fundamentally "good business".

Clark's leadership in the transmission of horsepower is a natural result of a half-century of diligent specialization in that basic field. It is equally natural that Clark's unusual experience and engineering resourcefulness should attract other equipment builders under competitive pressure to modernize old machines and develop new ones.

Record of that growing leadership is plain to read in the reported financial history of Clark Equipment.

35-year sales growth from \$4,741,000 to \$125,000,000

22 years of uninterrupted dividend payments.

Six plants employing 6000 persons

It's good business to do business with ...



**CLARK EQUIPMENT COMPANY
BUCHANAN, MICHIGAN**

Other Plants:

BATTLE CREEK • JACKSON and BENTON HARBOR, MICHIGAN

Investing in Options

HERBERT FILER

YOU WANT TO SELL your house for \$20,000. I think I can sell it for \$22,000 next month and make \$2,000. But I am not sure of the sale, and so I give you \$100 for the option to buy it from you for \$20,000 any time within a month.

If my sale materializes, I buy the house from you for \$20,000 and sell it for \$22,000. I have made \$2,000, less the \$100 I paid you for the option, and you received \$20,100 for your house. If I had not made the sale, you would be ahead the \$100 I gave you for the option, but, in any event, my loss would have been only \$100.

We do the same type of business in the stock market, except that we sell options on securities. We call them "put" and "call" options. A man who thinks that XYZ selling at 50 has a chance of going to 75 in the next 90 days buys a call option for \$400. For the \$400, he has the right, at his option, to buy 100 shares of XYZ at 50 any time within 90 days.

If the expected rise materializes and the stock goes to 75, he buys the stock at 50, according to the terms of his option contract, and sells it at 75 in the market. At a total cost and risk of \$400, he has made \$2,100 (\$2,500 less the cost of his option—commissions excluded).

If the stock had gone not up, but down instead—no matter how far down—his total loss would have been the cost of his option, or \$400. Notice that, for what it would require to buy 100 shares of XYZ on margin (50%), he could buy an option on 600 shares—and the loss would always be limited to the cost of the call option.

A PUT OPTION

Now I would like to explain what a put option is. A stock is selling at 75, and you think that it might break. Instead of selling it short with an unlimited risk, you buy a put option on 100 shares for 90 days, for which you pay, let us say, \$400.

If, before the expiration of your option, the stock breaks to, say, 50, you buy the stock in the market at 50 and deliver it against your put option at 75. Your profit is then \$2,500 less the cost of your option. Even if your judgment was wrong, and, instead of the stock going down, it went up to 100, you let your put option expire, and your loss is limited to the \$400 you paid for your option contract.

BASIC USES OF OPTIONS

These are the basic uses of options. They give the holder an unlimited chance for profit with a fixed and limited loss. There are many other uses: namely, to protect a profit, to protect a short sale or a purchase to average after a decline by buying call options at a limited risk instead of buying additional stock.

Options too have many tax advantages. They can be obtained to run for 60 days, 90 days, and six months and

ten days. Although probably a large part of the option business is done in 90-day contracts, those of six months' and ten days' duration have the special tax advantage.

A call option is bought today, let us say, on XYZ at today's price of 50 to run six months and ten days at a cost of \$600 per hundred-share call. If the stock should advance to 80 after the call contract has been held for over the six months' holding period, the contract itself may be sold to another party or to an option dealer for the difference between the net call price and the market price, say 80, or \$3,000 (less Stock Exchange commissions and tax), showing a long-term profit of \$2,400. This is a long-term profit by reason of the fact that the call contract is a capital asset in the hands of the taxpayer for over six months.

TO PROTECT A PROFIT

Suppose that a man owns XYZ, which he bought at 50 and is now selling at 75. He thinks that the stock will go higher but, nevertheless, he would not like to lose the profit he already has. He can buy a put option at 75, good for 90 days, which will cost him about \$400 per 100-share put, or four points of the profit he already has.

If at the end of 90 days the stock is selling at 95, he abandons his put-option contract, and he is free to sell the stock at 10 points additional profit or not, as he sees fit. By having the put, he increased his profit by 10 points, as against a cost of \$400 for the 90-day protection. If, on the other hand, the stock had declined to 50 during the life of the put, he would have delivered his stock at 75 against the put options, instead of selling his stock in the market at 50.

Another useful function of the call option: Consider the position of a man who has bought stock at 30 and finds that it is now selling at 20. He would like to buy additional stock at 20 to average, but he has neither the courage nor the desire to take the financial risk.

Instead of buying additional stock, he buys a call option at 20, good for 90 days, for which he pays \$200 per hundred-share call. He knows that the additional risk in trying to average is limited to the cost of the call. However, if the stock should advance to 30 in the 90 days of the call contract, he can sell 200 shares at 30—the original stock that cost 30 and the hundred that he can acquire through his call at 20. A bad trade turned into a nice profit by a limited risk of \$200 for the call option!

It might be well to point out that the premiums charged for put and call options vary according to the price of the stock in question, the length of the option, and the volatility of the stock. Calls on Radio selling at 38 would not cost as much as calls on General Motors selling at 93, nor would a 90-day call cost as much as one for six months and ten days.

All options that are sold by members of the Put and

Call Brokers & Dealers Association are endorsed or guaranteed by member firms of the New York Stock Exchange. This endorsement guarantees the fulfillment of the terms of the contract. Probably all the business of puts and calls in the United States and a large part of the European business come to New York through the branches of Stock Exchange houses, and then to the put and call brokers and dealers who specialize in this business. There are about 25 such dealers in New York City, who can give quotations and complete trades on almost any listed stock, in volume of 100 to 10,000 shares.

WHERE THEY COME FROM

It is important to know where these options come from and who makes or writes these contracts. Option dealers as a rule do not take the commitments themselves. They act as middlemen: They buy the options from individuals, funds, investment trusts, insurance companies — in fact, anyone who owns a large portfolio. And why do these individuals or companies sell options—to increase the income on the securities or the cash that they hold.

Mr. A owns General Motors—let us use a unit of 100 shares for our example. It is selling at 92, and I offer him \$500 for the privilege of buying it from him any time within the next 90 days at 92. If, before the end of the 90-day option, it is called from the writer of the contract, his General Motors has earned him \$500, or at a rate of \$2,000 per annum. He then has \$9,700: \$9,200 for the stock plus the \$500 premium to reinvest. If it is not called, he has earned the \$500 premium and is at liberty again to sell a call option and again earn a premium.

Suppose, however, that Mr. A has no General Motors but would be willing to acquire some. Instead of buying it in the market at 92, he sells someone a put option for 90 days at 92 for \$400. Before the option expires, he may have the General Motors delivered to him at 92—he will then own the General Motors plus the \$400 he received for the option, at a net cost of 88 for the stock.

After having had the stock put to him, he is in a position to sell a call on the stock and either have it called away from him or further reduce the cost by way of the additional premium.

A DOUBLE CONTRACT

Perhaps Mr. A owns some General Motors and would be willing to sell a double contract: a "straddle" we call it—a put and a call—giving the other party the right either to call 100 General Motors from Mr. A at 92 in 90 days and/or put 100 to him at 92. For such a double option or straddle, Mr. A receives \$800 per straddles.

If, after the sale of a straddle, and before the expiration, the stock is up, Mr. A will have 100 shares called from him at 92. Counting the \$800 received from the straddle, this makes the selling price equivalent to 100. If, on the other hand, the stock is down, Mr. A will have 100 shares delivered to him at 92, which is reduced by the premium of \$800 to the cost price of 84.

A word concerning the treatment of dividends in connection with put and call options. The practice is that, on the day a stock sells exdividend on the tape, all outstanding puts and calls are reduced by the amount of the dividend. Thus, with a put at 92 and a call at 92 on a stock that sells exdividend \$1, the put would automatically read 91, and the call would automatically read 91. At the time of selling exdividend, the stock itself is usually reduced by the amount of the dividend so that ordinarily the exdividend would be a pair-off.

It might be interesting to give a brief explanation of the tax treatment of premiums received from the sale of options. Under the present law, the premium received from an option that expires is ordinary income. The premium received from an option that is exercised is part of the stock in question and becomes long term or short term, according to the holding period of the stock. In other words, if Mr. A owns General Motors for four months and sells a 90-day call at 92 for \$500 and the stock is called, at the end of the option contract he will have owned the stock over six months, and his stock will be long-term gain, in addition to the \$500 premium which he received.

It is not the purpose of this article to give the impression that put and call options are indispensable to anyone who trades in the stock market, but it is my contention that it has become an important part of stock-market procedure and should be well understood by everyone who has an interest in securities.

THE AMERICAN METAL COMPANY, LIMITED

Common Stock
Dividend No. 117

The Board of Directors has declared a dividend of fifty cents (50c) per share on the Common Stock payable March 1, 1955 to stockholders of record at the close of business on February 18, 1955.

H. VOGELSTEIN,
Vice President and Treasurer



The EAGLE-PICHER COMPANY

American Building
Cincinnati, Ohio

The Board of Directors of The Eagle-Picher Company, at the meeting February 2, 1955, declared a quarterly dividend of thirty-seven and one-half cents (37½c) per share on the common stock of the Company, payable March 10, 1955 to shareholders of record February 18, 1955. This is the 59th consecutive quarterly dividend to be declared.

CARL A. GEIST,
Vice President and Treasurer

SOUTHERN NATURAL GAS COMPANY

Birmingham, Alabama

Common Stock Dividend No. 64

A dividend of 40 cents per share has been declared on the Common Stock of Southern Natural Gas Company, payable March 12, 1955 to stockholders of record at the close of business on February 28, 1955.

H. D. McHENRY,
Vice President and Secretary
Dated: January 27, 1955.

Security Prices and Business Cycles

EDMUND A. MENNIS

IT HAS BECOME FASHIONABLE in the postwar period to deprecate the usefulness of stock prices as a business barometer. These criticisms usually stem from the downward trend of stock prices from 1939 to 1942, during which time business was expanding under wartime pressure, and from the 1946 break in stock prices linked to the listless behavior in the succeeding years while business was undergoing a great postwar expansion. One characteristic of these comments is that they usually fail to distinguish between the *level* of stock prices at any particular time related to the *level* of business activity, and the *cyclical turning points* of stock prices related to the *cyclical turning points* of general business.

On the first problem no discussion is now offered. Much has been written, both in THE ANALYSTS JOURNAL and elsewhere, to answer the question of whether the market is high or low in relation to the present and anticipated level of business. Many statistical data have been adduced to prove the point one way or another.

A somewhat more objective analysis (although certainly not free from controversy) can be made of the relationship of the cyclical turning points of security prices and the turning points of general business. Our purpose is to examine the long-term record of several statistical series of stock prices in order to determine what this relationship has been.

ONE LONG-TERM RECORD AVAILABLE

The record of one stock series and its experience during several business cycles is available. The National Bureau of Economic Research, as part of its work in business cycle research, has examined more than 800 time series and selected 21 statistical indicators that have typically led,

coincided with, or lagged turns in general business. The results of this research were published in 1950, and, since then, these indicators have been followed with considerable interest for clues to the current business scene.

One of the Bureau's indicators that has consistently preceded turns in general business has been the Dow Jones index of industrial common stock prices. However, it is doubtful that the Dow Jones industrial average particularly represents the movements of stock prices generally.

IS THE DOW JONES AVERAGE REPRESENTATIVE?

The fact that the Dow Jones industrial average represents only a segment of the broad economic area of security price movements has been discussed at length elsewhere. The Dow Jones industrial average has been criticized for several reasons.

1. It represents only about 31% of the market value of the shares listed on the New York Stock Exchange and is restricted to a sample of generally high-grade industrial equities.

2. It does not represent these equities particularly well, because the method of adjustment for stock splits (and almost all of the stocks have been split in the past dozen years), in effect, places a greater emphasis on unsplit equities and fails to recognize the importance of growth stocks in the market.

3. Industry diversification is limited (only about 15 industries are represented), and the method of adjusting for splits has resulted in abrupt changes in industry emphasis in comparatively short periods.

For comparative purposes in this study, Standard & Poor's stock price indexes were selected.

Table 1. Record of Timing of Stock-Price Averages at Business-Cycle Turns

Stock Series	Reference Period Covered	No. of Ref. Turns Covered	Leads	Exactly Coinciding	Lags	Roughly Coinciding*	Avg. Lead - or Lag - months	Range	Standard Deviation
D-J industrials	1899-1949	11	9	0	2	7	-5.7	-21 to +3	7.6
		11	9	1	1	5	-6.8	-16 to +1	5.8
S&P composite	1899-1949	11	9	1	1	6	-4.5	-21 to +3	6.0
		11	9	1	1	4	-7.0	-16 to +1	6.1
S&P industrials	1899-1949	11	9	0	2	6	-4.6	-21 to +5	7.1
		11	9	0	2	3	-5.6	-16 to +2	5.0
S&P rails	1899-1949	11	8	1	2	3	-4.4	-22 to +10	7.7
		11	10	0	1	4	-6.3	-18 to +2	5.2
S&P composite	1873-1949	17	14	1	2	9	-4.9	-21 to +3	6.0
		17	14	1	2	5	-7.4	-21 to +2	6.4
S&P industrials	1873-1949	17	14	0	3	8	-4.9	-21 to +5	6.4
		17	15	0	2	5	-7.1	-21 to +2	5.7
S&P rails	1873-1949	17	13	1	3	6	-5.2	-22 to +10	7.3
		17	15	0	2	4	-6.3	-21 to +12	7.2

Entry on first line is for reference peak; on second line for reference trough.

* Rough coincidence is defined as plus or minus 3 months.

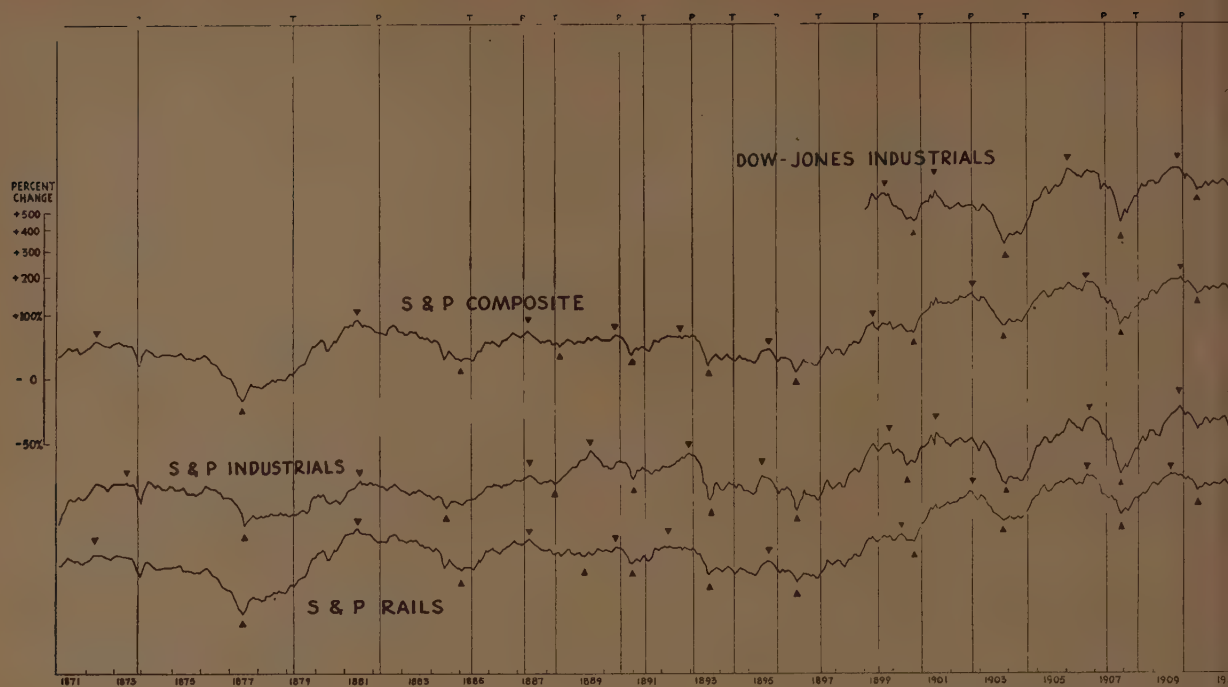


Figure 1. Cyclical Turning Points of Major

These indexes have several advantages.

1. The Standard & Poor's composite average is the most representative of all averages; its total market value is equal to over 80% of the total value of all stocks listed on the New York Stock Exchange.

2. By weighting each stock price according to the number of shares outstanding in the hands of investors, distortions due to stock splits are eliminated.

3. The composite, industrial, and railroad averages have been prepared by Standard & Poor from January 1918 to date and have been linked to the Cowles Commission indexes from 1871 through 1917. The same method of construction and, as far as possible, the same companies were used. Consequently, experience is available not only for the 11 business cycles covered by the Dow Jones industrial average but for six additional cycles as well.

4. Standard & Poor also has data for stock prices of companies in particular industries (16 were selected for this study), so that movements within the composite average can be traced. These series have been extended to

January 1918 so that observations for at least five business cycles are available.

PLOTTING THE DATA

The initial step in this study was to plot monthly data for all series to be analyzed, using semilogarithmic chart paper. The series plotted and the starting dates were as follows:

- Dow Jones industrial average (1899).
- Standard & Poor's composite average (1871).
- Standard & Poor's industrial average (1871).
- Standard & Poor's railroad average (1871).
- Standard & Poor's industry averages (1918).

Oils.

Chemicals (excluding du Pont).

Steels (including U. S. Steel).

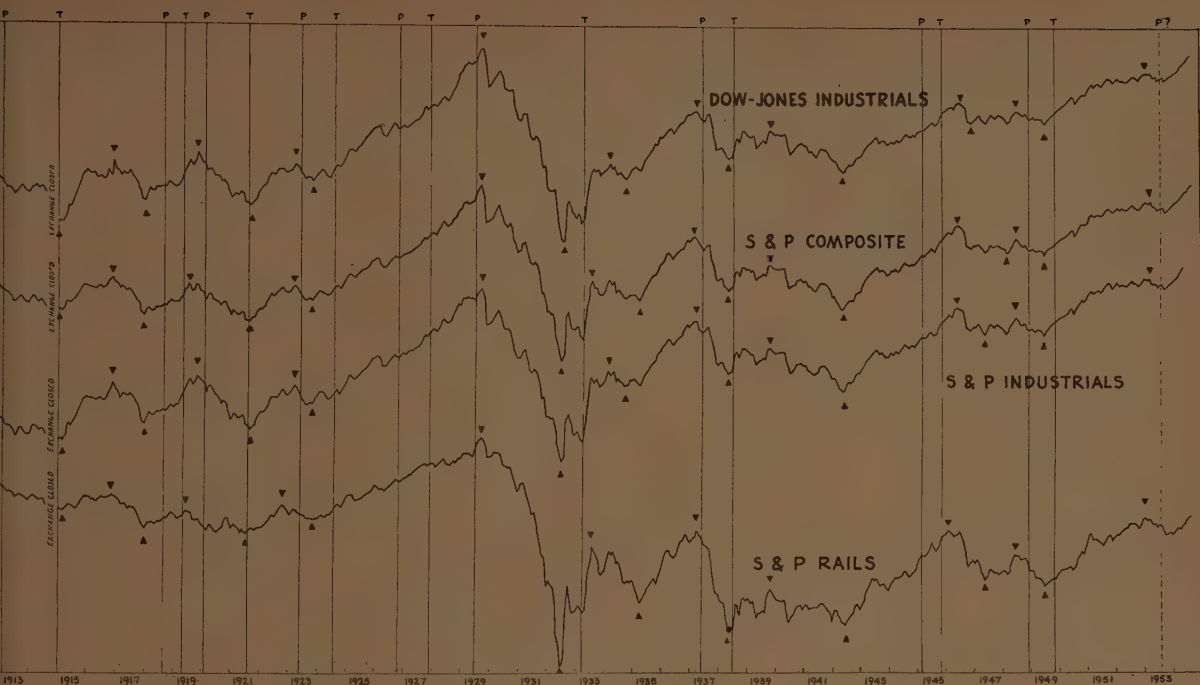
Copper.

Mining and smelting.

Automobile (including General Motors).

Table 2. Lead of Stock Prices at Business-Cycle Turns, 1899-1949
Extremes Omitted

Stock Series	Avg. Lead at Peaks	Standard Deviation	Avg. Lead at Troughs	Standard Deviation
D-J industrials	-1.4	2.7	-4.6	3.6
S&P composite	-2.8	3.0	-4.8	3.9
S&P industrials	-1.7	3.5	-4.6	3.9
S&P rails	-4.0	3.5	-5.1	3.9



Stock Price Indexes and of General Business

Tire and rubber.
Textile.
Mail order—chain store.
Department store.
Tobacco.
Agricultural machinery.
Office equipment.
Electrical equipment.
Fire insurance.
New York banks.

The long-term record of the first four series is presented in Figure 1, and the individual industry series are plotted in Figure 2. The vertical lines represent turning points of general business: *P* represents peak, and *T* represents trough.

The dates used for reference-cycle turning points in general business are those determined by the National Bureau of Economic Research. The small diamond represents the peaks and troughs of the specific cycles of stock prices.

No vertical scale is included on the charts, but rates of change can be measured by the scale provided in the left margin of each chart.

THE ANALYTICAL TECHNIQUE

After the stock series were plotted, the specific peaks and troughs of the cycles of each series were selected, using the procedure outlined by the National Bureau of Economic Research for this type of analysis. Briefly summarized, a cycle must be at least 15 months from peak to peak or trough to trough; cycles of less than 24 months are carefully examined to insure that they are cyclical rather than

random movements. When crests or troughs are flat, the latest month is selected. If movements around peaks and troughs are erratic, average levels are computed, and the highest point in the highest average level is selected. If the series is especially choppy, moving averages are used to help determine the month of peak or trough.

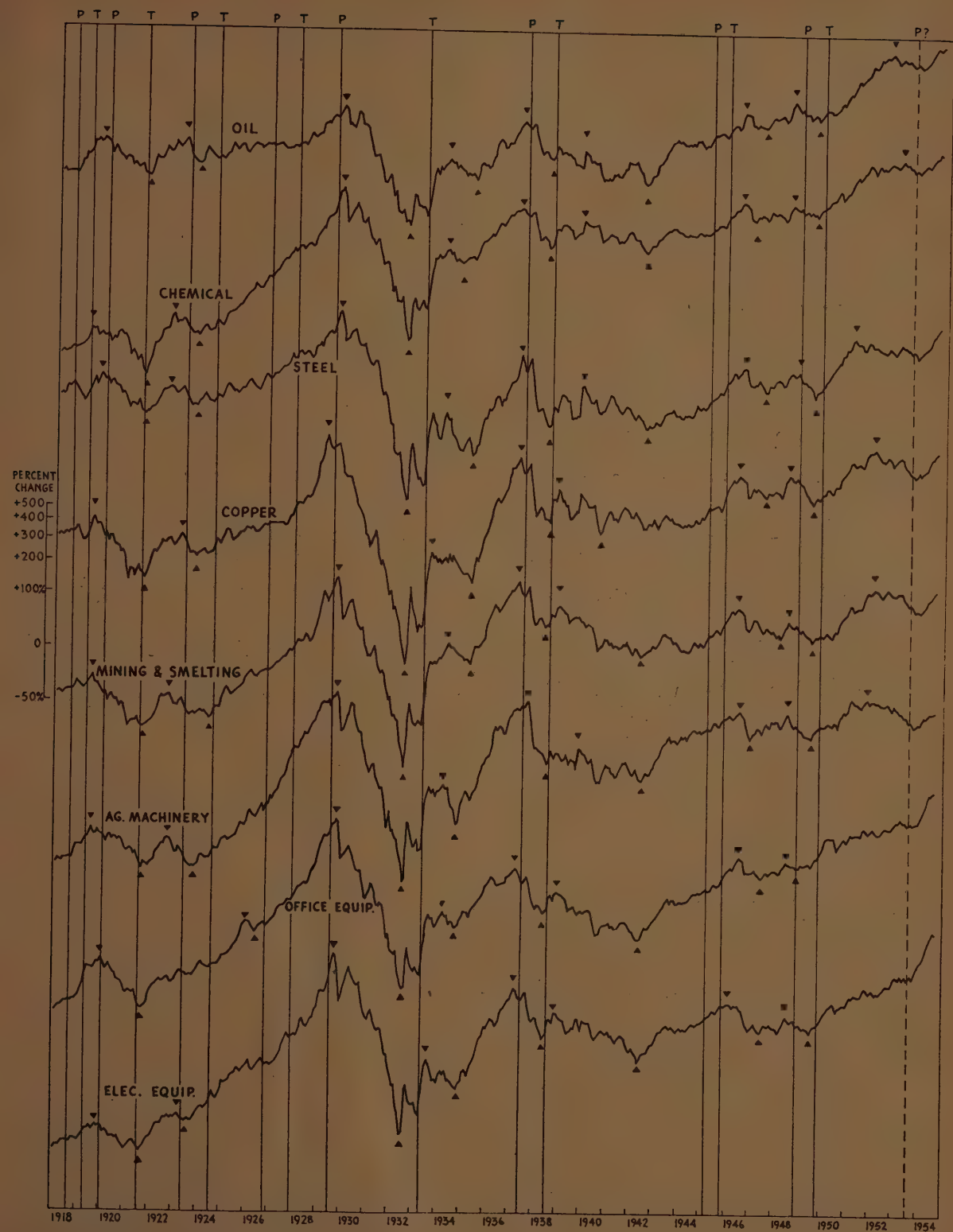
Once the specific peaks and troughs for each series had been selected, the reference-cycle dates were plotted on the charts. Then, for each cycle, the lead or lag of the specific cycle peak or trough was compared with the reference-cycle peak or trough. The results were tabulated, and the average lead or lag in months, the range, and the standard deviation were computed.

THE 1946-48 PROBLEM

Inasmuch as the Dow Jones industrial average was used by the National Bureau, the selection of peaks and troughs for this average was compared with the selections of the Bureau, and general agreement occurred in every period except for the specific cycle peak prior to the November 1948 peak in general business. The Bureau has indicated a lead at this peak of 30 months, marking the peak in stock prices as May 1946.

This date was reviewed carefully because this was the longest lead that has ever occurred in this series, because it differed so widely from the average lead, and because a lead of this magnitude would limit use of this average as a forecasting tool. In the examination, reference was made not only to the Dow Jones industrial average but also to all of the Standard & Poor's averages plotted.

The conclusion reached was that, between the 1945 business cycle and the 1948-49 business cycle, two cycles in



stock-market prices occurred. The first (from April 1942 to June 1946 to November 1946 in the Dow Jones industrial average) that occurred apparently was independent of a general business cycle. Such independent cycles have happened in the past: for example, July 1932 to February 1934 to September 1934 and April 1938 to October 1939 to April 1942. The second specific cycle (November 1946 to June 1948 to June 1949 in the Dow Jones industrial average) seems to have been more closely related to the 1948-49 general business cycle.

This conclusion seems borne out by an examination of the various Standard & Poor's indexes. Some, like the oil stock index, had a distinct cyclical peak in June 1948 that surpassed a lower peak in May-June 1946.

All other series had a definite two-cycle pattern similar to that of the Dow Jones industrial average as described in the preceding paragraph, and this pattern falls within the criteria set by the Bureau for marking specific cycles. (The only exception is the department store stock-price index, which seems to have a two-cycle pattern but with a trough-to-trough distance of only 13 months, thus violating the Bureau's arbitrary 15-month criterion for a cycle.)

Further evidence to support the two-cycle approach was provided by an analysis of the various indexes. Not only was the lead at the 1948 peak for each series more consistent with the average lead before that date, but also a more consistent lead of 5 or 6 months was obtained for each series, compared with leads ranging from 5 to 34 months if a 1946 peak in stock prices was assumed. Consequently, in the summaries of the data outlined in the succeeding paragraphs, a two-cycle approach is used.

THE MAJOR STOCK-PRICE AVERAGES COMPARED

A summary of the observations for the Dow Jones industrial average and the Standard & Poor's composite, industrial, and rail averages is contained in Table 1. On the

upper portion of the table, the experience for the Standard & Poor's averages is taken for 1899-1949, the period covered by the Dow Jones industrial average; in the lower part of the table, the experience for the entire 17 cycles 1873-1949 covered by the Standard & Poor's averages is summarized. The first line for each average covers business-cycle peaks; the second covers business-cycle troughs.

Summarized in this fashion, the Dow Jones industrial average seems to have a slight edge over the other averages in the average lead before business-cycle turning points. At peaks, the Dow Jones lead of 5.7 months is greater than that of any other average, and its lead of 6.8 months at troughs is exceeded only by the 7.0 lead of the Standard & Poor's composite. The high standard deviation and the range for these series, however, suggest that, for any particular cycle, the deviations from the average could be great.

Parenthetically, it is interesting to note that the lead at troughs is greater than that at peaks, reflecting the tendency for bear markets to be shorter than bull markets. The adjustment in the stock market takes place rapidly and ordinarily well before general business reaches a trough. At peaks, however, the lead is not so pronounced.

In order to test the effect of extremes on the measures obtained, a pile-on chart was made for the period 1899-1949 for each of these four averages. The horizontal axis represented the month's lead or lag, from -22 to +10. The vertical axis measured, for all averages for all cycles, the number of times any particular lead or lag occurred.

At peaks, 36 of the 44 observations (82%) occurred from -8 months to +5 months. There also were three at -21, two at -15, and one each at -22, -16, and +10. At troughs, 38 of the 44 observations (86%) occurred from -10 months to +2 months. Three occurred at -18 and three at -16.

The extreme observations were then eliminated, and average leads and standard deviations were then recom-

Table 3. Record of Timing of Industry Stock-Price Averages at Business-Cycle Peaks, 1918-1949

Stock Series	Number of Reference	Leads	Exactly Coin- ciding	Lags	Roughly Coin- ciding*	Avg. Lead - or Lag +, months	Range	Standard Deviation
	Turns							
Tire & rubber	6	6	0	0	2	-6.5	-12 to -2	3.8
Tobacco	6	4	0	2	1	-5.5	-30 to +14	15.4
Fire insurance	4	2	1	1	2	-5.0	-16 to +3	7.2
Automobile (incl. GM)	5	5	0	0	2	-4.2	-7 to -1	2.3
Chemical (excl. du Pont)	5	4	0	1	2	-4.0	-8 to +3	3.9
S&P rails	5	4	0	1	2	-3.8	-8 to +3	4.0
Mail order	6	4	1	1	3	-3.7	-10 to +3	4.3
Copper	5	5	0	0	3	-3.6	-6 to -2	1.6
Mining & smelting	5	4	0	1	2	-3.6	-8 to +3	3.8
Department store	5	3	1	1	2	-3.6	-10 to +3	4.6
Office equipment	5	4	0	1	3	-3.2	-10 to +3	4.3
Textile	5	4	1	0	3	-3.0	-5 to 0	1.9
S&P composite	5	4	0	1	3	-2.6	-6 to +3	3.1
New York banks	5	4	0	1	2	-2.6	-7 to +4	3.9
Agricultural machinery	5	3	0	2	2	-2.6	-8 to +3	4.7
Electrical equipment	5	4	0	1	4	-2.2	-5 to +2	2.3
Steel (incl. U. S.)	5	4	0	1	4	-2.2	-8 to +3	3.5
Oil	5	4	0	1	4	-1.8	-5 to +3	2.6
S&P industrials	5	4	0	1	4	-1.8	-5 to +3	2.6
Dow Jones industrials	5	4	0	1	4	-1.8	-5 to +3	2.6

*Roughly coinciding defined as plus or minus 3 months.

puted. The computations are summarized in Table 2. The superior performance of the railroad average is quite interesting, particularly in marking peaks, and the Dow Jones industrial average is not nearly so good, having the least favorable marking of peaks, and the second worst marking of troughs.

PERFORMANCE OF INDUSTRY STOCK-PRICE AVERAGES

Appraisal of industry stock prices may be made with somewhat less confidence because data are available only since 1918, so that only five, or at best six, business cycles can be compared. However, comparisons were made for the 16 industry series listed previously, and the four broader security averages were also analyzed for the same period.

In Table 3 the conclusions are summarized for business-cycle peaks and in Table 4 for business-cycle troughs. The series are listed in order of length of average lead; where two series have the same average lead, the one with the lower standard deviation is listed first.

At reference-cycle peaks, the series that had the best lead coupled with relatively low standard deviations were tire and rubber stocks, automobile stocks, copper stocks, and textile stocks. Of the broader statistical series, the Standard & Poor's railroad stock-price index had the highest lead and ranked sixth of the 20 series considered. The Standard & Poor's composite ranked thirteenth, and the Standard & Poor's industrials and Dow Jones industrials ranked last.

At reference-cycle troughs, the pattern is somewhat different. The four industry series ranking most favorably at peaks had some of the shortest leads at troughs; tire and rubber stocks and copper stocks ranked fourteenth and fifteenth, and automobile stocks and textile stocks ranked nineteenth and twentieth.

It would seem to indicate that some industries most sen-

sitive to business-cycle downturns are among the last to turn upward. The Standard & Poor's railroad average is more consistent; ranking sixth at peaks, it ranked seventh at troughs. The industry stock averages that had the longest leads, coupled with low standard deviations at troughs, were department store stocks, office equipment stocks, and electrical equipment stocks. These series were all in the lower half of the rankings at business-cycle peaks.

CONCLUSIONS

With the more detailed record presented, it is now possible to draw some conclusions about the relationship of stock-price cyclical turning points and general business cyclical turning points.

Reviewing the longer experience, the Dow Jones industrials and the Standard & Poor's composite, industrials, and rails changed direction earlier in 18 out of the 22 turns in business from 1899 to 1949. Using the cycles from 1871 to 1949, the Standard & Poor's composite and rail average led in 28 out of 34 turns in business; the Standard & Poor's industrials led in 29 out of 34 turns.

SOME FORECASTING SIGNIFICANCE

Even if the period from 1919 to 1949 is examined, the Dow Jones industrials and the Standard & Poor's composite and industrials led in 8 out of 10 turns; the Standard & Poor's rails led in 9 out of 10 turns. Although stock prices may not be so reliable as indicators as they have been in the past, they would still seem to have some forecasting significance.

With respect to the particular average to be used, the Standard & Poor's composite and railroad averages seem to have a somewhat better record than the other two averages. However, because of the rather substantial deviations around the average, no special pattern for a particu-

Table 4. Record of Timing of Stock-Price Averages at Business-Cycle Troughs

Stock Series	Number of Reference Turns	Leads	Exactly Coin- ciding	Lags	Roughly Coin- ciding*	Avg. Lead - or Lag +, months	Range	Standard Deviation
Department store	5	5	0	0	1	-8.6	-18 to -2	5.2
Office equipment	5	4	0	1	2	-7.8	-18 to +1	6.7
Tobacco	6	5	0	1	1	-6.8	-18 to +8	8.1
Mail order	6	5	0	1	1	-6.5	-18 to +5	7.5
New York banks	5	3	1	1	2	-5.4	-17 to +3	7.1
Electrical equipment	5	4	0	1	2	-5.2	-12 to +1	4.7
S&P rails	5	5	0	0	2	-5.0	-9 to -1	3.5
Fire insurance	4	3	0	1	2	-5.0	-12 to +3	5.9
Chemical (excl. du Pont)	5	4	0	1	2	-4.6	-9 to +1	3.9
S&P composite	5	4	0	1	2	-4.6	-9 to +1	3.9
S&P industrials	5	4	0	1	2	-4.6	-9 to +1	3.9
Dow Jones industrials	5	4	0	1	2	-4.4	-9 to +1	3.7
Agricultural machinery	5	4	0	1	2	-4.4	-9 to +1	4.1
Steel (incl. U.S.)	5	4	0	1	2	-4.4	-9 to +1	4.1
Tire & rubber	6	5	0	1	3	-4.3	-11 to +1	4.3
Copper	5	3	1	1	2	-4.2	-9 to +1	4.3
Oil	5	4	0	1	2	-4.2	-9 to +2	4.4
Mining & smelting	5	4	0	1	3	-3.2	-9 to +1	3.3
Automobile (incl. GM)	5	4	0	1	2	-1.8	-9 to +6	4.9
Textiles	5	3	0	2	2	+1.8	-9 to +22	11.4

*Roughly coinciding defined as plus or minus 3 months.

lar cycle can be expected. Nevertheless, the consistent long-term record of stock prices cannot be ignored, and, when it is taken in conjunction with the other indicators of business activity, some clues to future business activity can be obtained.

Use of the individual industry stock-price indexes is limited because of the lack of sufficient experience in their performance, but they should provide useful supplements to appraisal of the broader series.

THE PRESENT SITUATION

This article would not be complete without an examination of the action of the various averages during the recent business contraction. I have selected July 1953 as the peak month in general business activity, and Table 5 summarizes the lead or lag of the various series in turning around that month.

Of the broader averages, the Standard & Poor's rails and the Dow Jones industrials led by 6 months. The other two averages led by 4 months. Of the more consistent industry stock-price averages, textile and copper had the longest leads, 22 and 18 months, respectively, while automobiles led by 6 months and tire stocks by 4 months. Although 7 of the 20 series had leads of one year or more, 9 had leads of 4 or 6 months.

It is too soon to do other than speculate on the meaning of the recent (late summer of 1954) pattern of stock prices. Of the broader security averages, all turned upward in September 1953 except the Standard & Poor's railroad average, which turned up in December. Of the industry stock-price averages, 2 turned upward in June, 9 turned upward in September, 2 turned upward in December, and for 3 series no trough was apparent throughout the 1953-54 cyclical pattern.

If the average lead of the various series is taken from

Table 5. Lead or Lag of Stock-Price Series at July 1953 Business Peak

Stock Series	Months Lead - or Lag +, July 1953	Avg. Lead in Months, 1918-49
Department stores	-29	-3.6
Steel	-29	-2.2
Textile	-22	-3.0
Agricultural machinery	-21	-2.6
Copper	-18	-3.6
Mining & smelting	-18	-3.6
Oils	-12	-1.8
Mail order	-7	-3.7
Fire insurance	-6	-5.0
Automobile	-6	-4.2
Chemicals	-6	-4.0
S&P rails	-6	-3.8
New York banks	-6	-2.6
Dow Jones industrials	-6	-1.8
Tire & rubber	-4	-6.5
S&P composite	-4	-2.6
S&P industrials	-4	-1.8
Tobacco	+1	-5.5
Office equipment	*	-3.2
Electrical equipment	*	-2.2

*No peak apparent as yet.

their turning points, a turn in general business would be indicated for the end of the first quarter or during the second quarter of 1954; if the standard deviation is added to the lead, a turn by around midyear or a few months later is suggested. Of course, this is by no means a prediction, but rather a report of what the data indicate. Continued observation of many other phenomena and the passage of time will be necessary before the accuracy of this observation is established.



WARD BAKING COMPANY

The Board of Directors has declared the following dividends:

PREFERRED DIVIDEND—

The quarterly dividend of \$1.37½ a share on the Preferred Stock payable Jan. 1, 1955, to holders of record Dec. 17, 1954.

COMMON DIVIDEND—

A quarterly dividend of 45 cents a share on the Common Stock payable Dec. 28, 1954, to holders of record Dec. 17, 1954.



L. T. Melly, Vice Chairman and
Treasurer

475 Fifth Ave., New York City
December 7, 1954



RADIO CORPORATION OF AMERICA



Dividend Notice

The following dividends have been declared by the Board of Directors:

First Preferred Stock

87½ cents per share on the First Preferred Stock, for the period January 1, 1955 to March 31, 1955, payable April 1, 1955, to stockholders of record at the close of business March 14, 1955.

Common Stock

An extra dividend of 35 cents per share and a quarterly dividend of 25 cents per share on the Common Stock, payable January 24, 1955, to stockholders of record at the close of business December 17, 1954.

ERNEST B. GORIN,

Vice President and Treasurer

New York, N. Y., December 3, 1954.

Nuclear Energy and the Coal Industry

ERNEST OPPENHEIMER

THE ENORMOUS AMOUNTS OF ENERGY released by nuclear chain reactions have aroused considerable interest in the possibilities of using nuclear energy for power purposes. In the initial phases of nuclear developments, it was considered likely that nuclear energy would soon be in a position to compete with and replace conventional sources of power.

In more recent times, this optimistic orientation has been replaced by a more sober appraisal, emphasizing the difficulties, both technical and economic, which stand in the way of the development of nuclear energy for power. In the meantime, the nuclear energy program has become the greatest single consumer of electricity in the United States, drawing primarily on coal-operated utilities for its requirements.

PROBLEMS CONFRONTING DEVELOPMENT OF POWER FROM NUCLEAR ENERGY

Technical Problems. Although much of the technical phase of the nuclear energy program is cloaked in secrecy, enough data have been made public to indicate that major technical problems remain to be solved before nuclear energy can be used as a source of power on a practical basis. The following problem areas may be cited:

1. Designing of reliable, safe, and long-lived plants at low cost per kilowatt of generating capacity. At the present time, nuclear power sources have important shortcomings in all these respects.

2. Development of inexpensive processes for the recovery of source materials from low-grade ores. The great bulk of uranium ore comes in concentrations of less than 1%, necessitating considerable expense for mining, hauling, and refining.

3. Development of inexpensive nuclear fuels that can provide a high percentage of utilization before being replaced. The type of plant that is technically most feasible is the "once-through" plant, which does not recycle the fuel and consequently uses only a minor fraction of the potential. If this type of operation were implemented on a large scale, the uranium supplies would soon be exhausted. On the other hand, if the fuel is to be recycled, the plant and equipment that would be required loom very large.

4. Development of inexpensive and safe methods of radioactive waste disposal, including revenue-producing by-product uses. It is perhaps worth noting that the nuclear energy program, as presently conceived, is primarily concerned with the development of one "by-product": namely, plutonium. Other by-products of radioactive materials have found increasing utilization in medicine, industry, and agriculture. On the debit side, much of the radioactive material cannot be used for any presently known purpose and poses a very difficult problem of safe

disposal. This also applies to much of the equipment and plant used in nuclear projects, as they, too, become radioactive after a relatively short period of usage.

5. The design of nuclear reactors requires materials that will stand high temperatures, and high radiation densities and that do not absorb neutrons. These materials are scarce, require special processing, and are very expensive.

Economic Problems. The economic problem confronting nuclear energy as a source of power may be summed up as follows: how to produce power at a cost equivalent to or lower than that available from competitive sources. All the technical problems already cited tend to have an economic dimension, for their solution requires considerable expense.

EXPENSE WOULD BE PROHIBITIVE

In fact, if the development of power were the primary objective of the nuclear energy program, this expense would be prohibitive from the standpoint of private enterprise. David Lilienthal, the former chairman of the Atomic Energy Commission, made this comment: "I wouldn't advise anybody who is responsible for private investment . . . to put his money into the development of power plants employing fission as a source of heat."

The average cost of steam-generated electric power in the United States is 7.4 mills per kilowatt-hour. The cost of power from new conventional plants is about 2 mills lower than this figure.

STEADY IMPROVEMENT IN EFFICIENCY

It should be noted that the conventional plants have shown a steady improvement in efficiency over the last fifty years, a fact that is reflected in the relative stability of electricity costs while the general price level has risen considerably. No comparable "hard" figures are available for the cost per kilowatt-hour of power produced by nuclear energy, but some basis for comparison may be established by ascertaining the respective costs of the ingredients of power production: namely, cost of plant, fuel, administration, and amortization.

In assessing the cost of nuclear versus conventional plants, it should be noted that the only part of the equipment that would be affected is that used for generating steam. The latter represents less than half of the total cost of the conventional station.

The cost of the steam-generating facilities in new conventional power plants is about \$77 per kilowatt capability. The only equivalent "hard" figure for a nuclear steam-generating facility is provided by the breeder reactor at Arco, Idaho, which has a unit cost of \$11,200 per kilowatt. This figure should be considered with the qualification that the reactor involved is an experimental model. However, even the most optimistic appraisals, which make consider-

able allowance for improvements, estimate the cost of nuclear reactors to be at least three to five times as high as of conventional plants.

Although theoretically fuel costs of nuclear plants could be very low, actually they are at least as high as conventional fuel, even if the national defense demands for uranium decline. This is due in part to the fact that uranium mining is costly and in part to the fact that only a small fraction of the total theoretically available energy can be obtained without increasing capital outlays for recycling the fuel.

ADMINISTRATIVE AND OPERATING EXPENSES

Administration and operating expenses for nuclear reactors have been estimated at about twice the average for conventional plants. The technical tasks of operating such plants, including the novel problems of waste disposal and security, would be far more complex than those faced in conventional plants.

The rate of amortization of nuclear power plants is far more rapid than that of conventional plants. This is primarily caused by the fact that about three fourths of nuclear equipment becomes poisoned by radioactivity in the course of usage. It is estimated that nuclear plants must be amortized in five years. This compares with a period of twenty to thirty years' amortization for conventional plants.

MORE COSTLY THAN CONVENTIONAL PLANTS

It is apparent from the preceding survey that nuclear power plants are more costly than conventional plants, whether one considers initial capital outlay, fuel costs, administrative and operating expenses, or rate of amortization. The cited estimates for costs of nuclear plants made rather generous allowance for technical developments; it is not likely that any significant reduction of costs can be expected, because of the inherent nature of the problem. These facts, and possibly others not available to the general public, have led the President's Materials Policy Commission to conclude that "It does not appear that nuclear fission can be regarded as a contribution in any substantial

degree to electric generation during at least the next ten to fifteen years.

Although as a primary activity the generation of power by nuclear plants cannot be considered an economic operation, it seems feasible to engage in this enterprise as a by-product operation. The so-called "dual-purpose" reactor fulfills its function by producing plutonium for military use and by utilizing the energy released in this process for power generation.

SERIOUS LIMITATIONS

However, even this process has serious limitations. The capital outlay required is so high that hitherto the Atomic Energy Commission has found it more advantageous to draw on conventional power plants for its needs, letting the nuclear power go to waste. Experimental efforts are now under way to utilize this wasted power.

An additional handicap of the dual-purpose reactor is that its economy is inextricably linked up with the Government's plutonium stockpiling program. Philip Sporn, President of the American Gas & Electric Company, points to this fact as an Achilles' heel, citing a statement by former AEC Chairman Dean to the effect that plutonium stockpiling may soon reach a point of balance. Mr. Sporn notes that utilities have to think in terms of a useful plant life of at least twenty-five years or more; they could not commit themselves to a program that might leave them holding the bag whenever the Government decided that it had enough plutonium.

WORTHY OF ELABORATION

The reference to the use of conventional power for nuclear projects is worthy of further elaboration. In effect, the Atomic Energy Commission has become the largest single consumer of electricity in the United States. The bulk of this electricity is generated by coal.

The nuclear plants in Portsmouth, Ohio; Oakridge, Tenn.; and Paducah, Ky.; require about 20 million tons of coal annually to supply their power needs. No hard figures are available for other nuclear projects, though it is not unlikely that such major installations at Hanford, Wash., and

AIR REDUCTION

Company Incorporated



151st CONSECUTIVE

COMMON STOCK DIVIDEND

The Board of Directors has declared a regular quarterly dividend of 35¢ per share on the Common Stock of the Company, payable on March 5, 1955 to holders of record on February 18, 1955, and the thirteenth regular quarterly dividend of \$1.125 per share on the 4.50% Cumulative Preferred Stock, 1951 Series, of the Company, payable on March 5, 1955 to holders of record on February 18, 1955.

January 27, 1955

T. S. O'BRIEN, Secretary



AMERICAN PHENOLIC CORPORATION

At a meeting of the Board of Directors of American Phenolic Corporation held today a dividend of twelve and one-half cents per share was declared, payable January 28, 1955, to the shareholders of record at the close of business January 14, 1955. The transfer books will not be closed.

Dated at Chicago November 29, 1954.

CARL V. WISNER, JR.,
Secretary

GOODYEAR

DIVIDEND NOTICE

The Board of Directors today declared the following dividend:

50 cents per share on the split Common Stock, payable March 15, 1955 to stockholders of record at the close of business February 15, 1955.

The dividend is equivalent to \$1.00 per share on the old stock.

The Goodyear Tire & Rubber Co.
By Arden E. Firestone, Secretary
Akron, Ohio, January 10, 1955

THE
GREATEST NAME
IN RUBBER

Savannah River, Ga., are also big consumers of coal-produced electricity.

Moreover, the high rate of capital outlay, including replacement of equipment, by the AEC creates additional demand for coal. It is estimated that capital outlays for the nuclear program are in the neighborhood of \$2 billion annually, with one tenth of this cost attributable to fuels. The exact share of coal could not be ascertained, but it is bound to be large, for coal is directly involved in most metals processing and indirectly as a source of power for generating electricity.

A LOOK AT THE FUTURE

The President's Materials Policy Commission estimated that, by 1975, the demand for energy in the United States will increase three- to fourfold. The nuclear energy program will continue to be a major net consumer of power, even if some of the power now wasted in the plutonium-production process will be utilized by means of dual-purpose reactors.

Coal will be increasingly relied on as the main source for power, as other fuels will exhaust their most economic sources of supply and will consequently rise in cost relative to coal. The Commission estimates that, by 1975, U. S. coal consumption will be at least 800 million tons, with a considerable increase projected thereafter. The electric utilities alone will increase coal consumption from their present 100 million tons to at least 300 million tons in 1975.

MAY BECOME MORE FEASIBLE

It is possible that, on a long-range basis, nuclear energy may become a more feasible source of power. This contingency would transpire if coal costs rose substantially while the technical and economic problems now confronting nuclear power production were solved.

Such a contingency is not likely in the United States during the next twenty-five years, but in other parts of the world more favorable conditions for nuclear power produc-

tion may exist already. A recent survey of possible markets for nuclear power plants indicates that there are areas in the world where plants to supply electric power at a cost range of 25 to 40 mills per kilowatt-hour could be competitive with conventional supplies or could provide power needs not presently supplied.

However, such an appraisal of foreign applications must, of necessity, include the national security factor, for nuclear power plants are rather easily converted into plutonium producers. It seems prudent that, before any widespread development of nuclear power sources is encouraged in other parts of the world, the United States and her allies take steps to institute adequate safeguards against the dangers involved.

CONCLUSIONS

1. Major technical and economic problems remain to be solved before nuclear energy can be used as a source of power on a practical basis.
2. Initial capital outlay, fuel costs, administrative and operating expenses, and rate of amortization of nuclear power plants are far higher than the costs of conventional plants.
3. The Atomic Energy Commission has become the largest single consumer of coal-produced electricity in the United States.
4. The President's Materials Policy Commission estimates that by 1975 the demand for energy in the United States will increase three- to fourfold. The nuclear energy program will continue to be a major net consumer of power, while coal will be increasingly relied on as the main source of energy.
5. Nuclear power plants may be economically feasible in other parts of the world, where present sources of power are high-cost or inadequate. However, the development of such plants will have to await the solution of political problems relating to the establishment of proper safeguards against abuses.



AIRCRAFT RADIO CORPORATION

Boonton, New Jersey

Dividend No. 88

On January 26, 1955, the Directors of Aircraft Radio Corporation declared a dividend of twenty cents (20c.) per share on the common stock of the Company, payable February 24, 1955, to stockholders of record at the close of business February 11, 1955.

H. M. KINGSLAND, Secretary

HAZEL-ATLAS GLASS COMPANY

WHEELING, W. VA.



DIVIDEND NOTICE



A quarterly cash dividend of 30 cents per share on the Capital Stock of the Company will be paid April 1, 1955 to stockholders of record at the close of business March 18, 1955.

H. G. LEWIS

Vice President
and Secretary

STANDARD BRANDS

Incorporated

COMMON STOCK DIVIDEND

The Board of Directors declared a quarterly dividend of 50c per share payable on March 15th to stockholders of record on February 15, 1955.

PREFERRED STOCK DIVIDEND

The Board also declared a dividend of 87½c per share payable on March 15th to stockholders of record on March 1, 1955.

JOHN B. NOONE

Secretary & Treasurer

January 27, 1955

Our eggs are in many baskets

There's stability in diversification. So Pittston has gradually spread its holdings over a number of businesses that are related without being mutually dependent.

Originally anthracite coal producers, we then switched into bituminous coal production and distribution, started natural gas production, then added wholesale fuel oil terminaling and distribution, and now uranium ore production. General trucking, armored car service and warehousing are other phases of our business. Since most bulk oil moves by water, we are operating our own tankers and barges.

Today only 26¢ out of each revenue dollar comes from coal mining and distribution. Before many years we anticipate an increased use of coal. And atomic power holds interesting possibilities for the more distant future.

The future holds many uncertainties, but of one thing we can be sure: The nation's energy needs will go steadily up, and whatever the source of that energy, Pittston is in a position to supply it.



A partial list of Pittston Subsidiaries

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OIL DISTRIBUTION

Metropolitan Petroleum Corporation, New York
Maritime Petroleum Corporation, New York
Globe Fuel Products, Inc., Chicago
Greater Valley Terminal Corp., Philadelphia
Metropolitan Coal Company, Boston

COAL MINING

Clinchfield Coal Corp., Dante, Va.
Compass Coal Company, Clarksburg, W. Va.
Lillybrook Coal Company, Beckley, W. Va.

NATURAL GAS PRODUCTION

Clinchfield Coal Corp., Dante, Va.

URANIUM ORE PRODUCTION

Sierra Ancha Mining Company,
Grand Junction, Col. and Globe, Arizona

COAL DISTRIBUTION AND EXPORT

Pittston Clinchfield Coal Sales Corp., New York
Clinchfield Fuel Company, Spartanburg, S. C.
Davis-Clinchfield Export Coal Corp., New York
Routh Coal Export Corp., New York

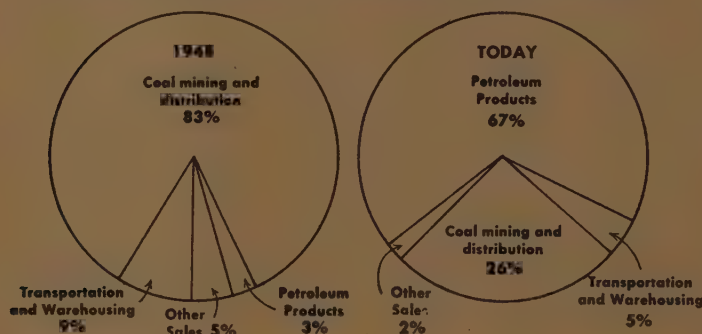
TRANSPORTATION

United States Trucking Corp., New York
Valentine Tankers Corporation, New York
Valentine Transportation Corp., New York

WAREHOUSING

Independent Warehouses, Inc., New York
Tankport Terminal, Inc., Jersey City, N. J.
Portside Warehouse Corp., Jersey City, N. J.

How diversification has changed our income dollar



PITTSTON IS A BIG COMPANY AND STILL GROWING

TOTAL SALES IN 1943
\$35,264,093.

TOTAL SALES IN 1953
\$158,600,684.

THE PITTSTON COMPANY

Holding Company for Groups of Diversified Industries

250 Park Avenue • New York 17, N. Y.

The Middle Road

ALAN D. WHITNEY

MOST OF THE CURRENT CROP of economic doctors who are presently expressing themselves on our status in the business cycle are at least mildly optimistic. Those who hold public offices, as either elected politicians or civil servants, seem almost obliged to take such a stand; so their opinions should be discounted to that extent.

As for those who are expressing themselves freely from conviction, one can readily agree with much of their optimism, still wondering how they explain certain segments of our economy that are in the doldrums. As for the stock market, many equity securities are enhancing, at a time when their pertinent earnings are not. This has been explained in many ways, but no explanation advanced seems entirely justified.

In the late 1920's there were no apparent clouds on the horizon. The few people who discerned a coming storm and remarked about it were almost stigmatized as traitors. Those who acted correctly at the time have never been loved much since by those who guessed wrong and who constituted the majority. "Short sellers" were investigated by Congress, but who investigates "long buyers," even when they buy, with other people's money, as do most fund operators?

No two recessions, depressions, panics, or whatever one may call them are alike in cause or effect. That they recur with the inevitability of the tides is too obvious for the most optimistic to deny. What the optimist usually asserts, though, is that the day of reckoning is so far off that we can forget about it. Can we, for who knows how far off it may be?

OUR PRESENT BOOM

Our present boom in stocks is very unlike that of the late 1920's in many details, but is it so very different otherwise? Human nature has not changed, and what is the difference between buying overpriced stocks of one kind in 1929 and of another in 1954?

Where it was banks, utility holding companies, and radio stocks then, it is uranium, electronics, and oil and gas lands' securities, today. Where brokers' loans were excessive then, it is Government obligations of all kinds that may be excessive today, plus installments' loans on both real and personal property. People may not make identical mistakes twice in the period of one generation, but they can make similar ones.

A ship sank in the channel leading to Miami's harbor in 1926, blocking the passage of all other craft for several weeks, and thus began the collapse of the Florida land boom, three years before 1929. A banking house failed in London many years ago and set off a worldwide panic. Neither of these incidents, nor any other similar event, could have had such dire effect if the economy had not been poised for a fall, and needed only some unfortunate

circumstance to give it a push. Who knows what may occur one of these days to set off a tumble from current peaks? If security prices are not vulnerable, nothing can upset them, but, if they are, they can be severely hurt.

One irrefutable element of a bullish nature today is admittedly the deteriorated dollar. But, bad as it is, it is better than almost any other country's money. What Americans may disdain to hold, most foreigners give (or would give) much to acquire.

Relative to gold the dollar may be poor, but relative to almost every other national standard it is good. Too much should not be wagered on its ultimate worthlessness; even if it should continue to depreciate, it may take a very long time before it has lost all purchasing power.

There are a few stocks that may be comparatively cheap today, while most others are unduly high. If one hesitates to sell everything and run for cover, he might be able to do some wise switching.

Until recently the sugar and textile companies' stocks have been quite low, and some informed buyers have been willing to pay above current market prices for the control of several textile companies. Many other corporations whose stocks may be too low, are quietly buying in their own securities. (An examination of the periodic SEC reports on such purchases, will reveal them.)

Technological changes can justify a reasonable amount of disdain for one industry and enthusiasm for another, but, when a security sells down to half its net current position per share, it is on the bargain counter—all the more so, if there is any chance of its liquidating and retiring from the field. At the same time, the future of another security may be brilliant, but how much should one pay for what he may not collect for a decade to come? It is those extremes in today's markets that investors should consider closely.

POSTPONING INCOME TO REDUCE TAXES

Postponing income to reduce taxes, and building only for capital gains is very wise if one is young enough to enjoy the ultimate fruits of such a plan. But "time is of the essence," and "putting things away for one's grandchildren" may lead to the grandchildren having to put up with the grandparent.

One of the most serious faults with common thinking today is the assumption that we know all the answers to all problems. Social security, old age insurance, investment programs, guaranteed bank deposits, and so on, are all based on things as we know them or think we know them. But who can tell what may knock them into a cocked hat?

There are no simple answers to any great problems, and the general assumption that there are many such can be pretty serious. This point covers political, international, and scientific problems, as well as economic ones. Our recent successes along so many lines have tended to make

us think that nearly everything is a cinch, which it is not. Our former allies' joint attitudes toward us in many matters is fairly simple proof of that. We need a little ego deflation, and may get it from sources not yet anticipated.

INCREASE IN POPULATION

A problem that faces our country for the longer view, but is not considered such today, is our rapid increase in population. The present rate may decline somewhat, but it is unlikely to recede to where it was twenty years ago. With the antibiotics and many other life-lengthening factors, it is possible for our population to double by the year 2000.

Maybe that number of people will not overcrowd this vast and fertile land, but maybe it will. At least it is something to consider carefully, as densely populated countries are generally much poorer than sparsely settled ones.

We cannot all thrive just by taking in each other's washing. More production and distribution all along the

line will be necessary merely to maintain the greater number of people, old and young. What about our present social security plans when our population may have doubled and its longevity greatly increased? That is a moot question.

WHAT CAN THE INVESTOR DO?

What can the investor do about it all? He can get his house in order and refuse to be bowled over by mob thinking, whatever it may be. That is the privilege and duty of everyone in a free country with a relatively free economy.

He should not trust too much to luck. At the same time, he should not overdo it the other way, but he must try to take a middle path and watch both sides carefully. He should be prepared for what may be worse and on the constant lookout for what may be better. Eternal vigilance may be the price not only of safety but also of peace of mind and general comfort.

* * *

1884 . . . August 20 . . . Financial difficulties in Vienna.

August . . . End of war between the New York & West Shore Railroads (American).

1885 . . . June 1 . . . End of Yorkshire coal miners' strike (after 8 weeks).

1886 . . . July 7 . . . Lake Shore dividend passed (American).

August (18) . . . Joint traffic contract between Central of New Jersey and Baltimore & Ohio Railroads (American).

November 3 . . . Speculation of London Stock Exchange in mining shares.

December 20 . . . Gold withdrawals from Bank of England for New York and Australia.

1887 . . . February 9 . . . Panic on the London stock exchange.

June 29 . . . Bank failures in the United States owing to the collapse of the wheat corners. "Semi-panic on New York Stock Exchange."

1888 . . . May 30 . . . London drop in the price of silver (to 41' 5/6d per ounce).

June 27 . . . Floods in Mexico.

September 19 . . . Chicago and St. Paul Railroad passes dividend (United States).

November 21 (United States) Eastern Trunk Lines cutting rates.

Newer Forms of Secured Commercial Loans*

HERBERT R. SILVERMAN

ONE MIGHT NAME THE YEAR 1932 as the beginning of a new era in the banking and finance industry, for around that time the industry revised its concepts and practices. A continuing rise in the supply of loanable funds and a drop in the number of borrowers compelled lenders to explore new bases for lending.

To some extent, commercial finance companies are outgrowths of the old-line "factor" who originally purchased accounts receivables on a nonrecourse basis with notification to those whose receivables were purchased. Commercial finance companies pioneered in the techniques of mass financing, ranging from the financing of accounts receivables, inventory, machinery, commercial and industrial equipment, and installment selling of durable and nondurable consumer goods. The sales finance company is an outgrowth of the commercial finance company, and in some instances all forms of financing are still performed by the same company.

FINANCING ARRANGEMENTS CHANGED

Not only have financing arrangements changed in response to developments within the financing industry itself, but they have also adapted to changes in the economy generally. New methods of doing business have required new forms of financing. Most of the types of secured loans arose as a result of modifications or innovations in business practice. An increasing number of present-day commercial loans are made on a secured basis.

One recent development is an increased market consciousness among lenders of funds. Lenders now recognize the need to study what potential borrowers require and to devise arrangements by which they can meet those needs.

Growing competition among lenders and development of new forms by which credit accommodation can be made mutually advantageous have had far-reaching consequences. A far larger proportion of American businesses can now obtain adequate financial assistance as needed. Businesses of small size can expand faster, medium-sized businesses enlarge their horizons. A major consequence of this change is a substantial growth in the freedom of enterprise.

Mergers have become important. Mergers and acquisitions have a long history in the United States. Almost all of the Nation's industrial giants are the product of merger and acquisition combined. (The most notable exceptions are the Ford Motor Company, Singer Sewing Machine Company, and the Aluminum Company of America.)

During and immediately after World War II, a large number of mergers took place, involving medium-sized

firms primarily. This last year has seen a sudden rush of mergers and acquisitions, most notably in the automobile field, but practically no industry has escaped this trend.

Both the creation of "dominant" firms and the combination of medium-sized firms required financing. Because the corporations involved were usually large and publicly financed, merger and acquisition could be effected by an exchange of stock or with the assistance of investment bankers and public security sales.

Evolution of an implementing technique—an intricate and fairly new form of secured commercial financing, commonly referred to as "buy-outs" — has made many of the mergers involving medium-sized firms possible. Most acquisitions of companies probably emanated from tax considerations by both the seller and buyer.

Also many sellers of firms are motivated by the business owner's preference for selling his enterprise rather than having it liquidated. Ordinarily, an operating business is worth far more than the amount that would be realized from its liquidation. Moreover, if the sale of the business is postponed until the top executive has passed on, the value of the business to a purchaser is likely to be seriously impaired.

DESIRE TO SECURE CONTROL

Buyers often are motivated by the desire to secure control of a business at an attractive price. Ordinarily, they intend to operate the business, though purchase with a view toward almost immediate resale is not rare.

Many occasions arise in which the price for a business that seems excellent to the seller might bring profits to the buyer. There have been a number of such acquisitions in recent years. In the absence of a radical change in tax laws, the number is likely to continue large.

Few individuals or syndicates buying a company both can afford and are willing to pay all cash for their purchase. Frequently, they borrow at least part of the purchase price from the sellers. More and more, they have been acquiring credit accommodation from commercial finance companies.

A fairly typical sellout was one in which the seller, an elderly man, for thirty-five years the proprietor of a highly profitable business, decided to put his estate in order by turning his business into cash. The company had earned, on average, in recent years about \$250,000 annually on a sales volume of \$5 million. Its net worth was valued on the books at \$2.5 million. (These, and the following numbers have been rounded for clarity and simplicity in exposition; the orders of magnitude involved are accurate, however.)

Included among the company's assets was almost \$1 million in cash, \$500,000 of accounts receivable, and about an equal amount in inventory of both finished and unfinished goods. Fixed assets, in the form of plant and

*This article has been prepared in collaboration with Alfred R. Oxenfeldt, executive vice-president of Boni, Watkins, Mounteer & Company, economic consultants, and Milton A. Gordon, president of Television Programs of America, Inc.

equipment, were valued, after depreciation, at \$1.25 million.

The company had no long-term liabilities. Against its \$3.25 million in assets, it had accounts and notes payable (all due within six months) of about \$500,000. Accordingly, its net worth was \$2.75 million.

The buyer and seller agreed to a price for the company of \$2 million—eight times earnings. Toward this purchase price, the buyer—a young man with previous experience in the same industry—was able to provide only \$250,000. He therefore had to borrow \$1,750,000—seven eighths of the purchase price.

The commercial finance company that made this loan did not lend this large sum for an extended term because the \$1 million in cash held by the company—more than the company required for its operations—was to be reduced to pay off a large part of the loan. Specifically, all but \$250,000 of the cash was to be withdrawn and paid to the commercial finance company after title to the company changed hands. Thus, except for a very short period, when it did provide \$1.75 million of "turn-around money," the commercial finance company loaned only \$1 million.

ORGANIZED A HOLDING COMPANY

In this first stage, the buyer organized a holding company for the purpose of acquiring the operating company in question. (Hereafter, it is referred to as the K Manufacturing Company). All of the common stock in the holding company was assigned to the commercial finance company as collateral for its loan of \$1,750,000. The buyer also invested his \$250,000 in the holding company and received preferred stock. The holding company obtained the funds required to purchase the K Manufacturing Company, which the buyer held an option to purchase at \$2 million.

At this stage, the commercial finance company, by virtue of its ownership of all the holding company's common stock was in control of its \$2 million of cash resources. It could therefore insure that those resources would be used to acquire the K Manufacturing Company, which it also controlled, for all of the latter's stock was acquired by the holding company.

Consequently, the commercial finance company could, in accordance with its explicit agreement with the buyer, authorize that \$750,000 of its loan be repaid immediately. All of these things were, in fact, done, and the K Manufacturing Company changed hands.

In the second stage of the acquisition, the commercial finance company's loan was promptly cut about 40%, by reducing the operating company's cash to the extent of \$750,000. Also, the holding company was dissolved, and control of the K Manufacturing Company (subject to many carefully specified restrictions set forth in the original agreement between the commercial finance company and the buyer) was transferred to the buyer. When the commercial finance company gave up control of the holding company and the operating company, it obtained other security in its place.

Against \$1 million loan to the buyer, remaining after the company's cash was reduced to pay off \$750,000 of

the "turn-around" money, the finance company was given as security for its loan \$500,000 of receivables as collateral for a loan of \$400,000 and a mortgage on the company's \$1.25 million plant equipment against a loan of \$600,000. Before the conclusion of the agreement with the buyer, the finance company had assured itself that the receivables and the plant and equipment were easily worth the amount of the loan.

Put differently, in the second stage, the commercial finance company's \$1.75 million of turn-around money was replaced by two loans totaling \$1 million: \$400,000 against receivables with a face value of \$500,000; and \$600,000 against the company's plant and equipment; \$750,000 of the loan was repaid within a few days. Of course, the basic security of the lender was in the form of a company that showed high earnings, from which its loans could easily be repaid in a reasonable period.

BASIC SOCIAL AND ECONOMIC EFFECTS

What, then, were the basic social and economic effects of this transaction? An orderly transfer was here effected in the ownership of a business that had served the public well, from an aging proprietor to a younger and more aggressive management. Moreover, a business was permitted to continue operations, that otherwise might have been liquidated, with harmful consequences to all persons directly associated with the enterprise and to the community in which it operated.

Put in still more general terms, the increased ease of financing mergers and acquisitions resulting from the expanded operations of commercial finance companies in this sphere contributes to the more rapid growth of small and medium-sized firms.

MOTION PICTURE AND TELEVISION

Perhaps the most complicated and least-known form of present-day secured financing is the motion picture and television program loan. This type of commercial financing involves a form of security that poses challenging problems for the lender. It has acquired importance because of the employment of new techniques in motion picture production—3-D, Cinemascope, and Cinerama; and the rapidly growing market for financing television programs.

In fundamental character, loans secured by motion pictures are related to loans against commercial and industrial equipment. The similarity between these types of loans consists in the fact that a motion picture is an income-producing asset. The unique features of motion picture loans may be summarized as follows:

Most motion picture loans are made to companies organized solely for the production and distribution of a single film.

The resale value of a motion picture—at the time that the lender would have the right to take possession following nonpayment of the loan—might be nominal. Once a film has been distributed through regular channels, that is, after it has been shown both domestically and abroad, its value is almost completely exhausted.

The motion picture loan is made even before the security—the picture—is in existence.

A description of the typical motion picture loan will aid understanding of its salient features and the significant respects in which it differs from other types.

Before and during World War II, the motion picture industry was relatively prosperous—especially for producers. However, the costs of producing a feature film mounted steadily as the public insistence on “stars” and the pressure for more lavish productions increased.

Consequently, the capital requirements of film producers became greater. While the large major studio possessed sufficient resources of its own or could easily obtain short-term loans from commercial banks, the independent producer, who established a separate corporate entity to make each feature film, was directly affected. He had to raise more funds—and the total involved came to be very high. As a matter of fact, it became so high as to threaten to choke off the independent producer.

INDEPENDENT PRODUCERS

At about this time, the commercial finance company became interested in the financing of independent producers and worked out some techniques that would make the financing of these motion pictures feasible. Before an independent producer could receive a loan he had to submit to the finance company the following information:

1. A budget showing the estimated cost of completing the picture—including the distribution costs.
2. A script and cast—including contracts with the principal performers.
3. A completion guarantee—a form of bond or insurance that would compensate the lender for loss, in the event the picture was not completed.
4. A distribution contract—which indicated the company or companies that would undertake to place the picture in the Nation's theaters.

On the basis of the foregoing information, a final decision would be made whether to undertake the financing. Weight was placed on the background and past performance of the producer, rather than on an evaluation of the script and the cast.

Finance companies have been willing to engage in motion picture financing because, despite the peculiar features of the security they received, it was possible to compute the minimum gross income that a film would yield with great accuracy. In other words, the motion picture business was essentially stable and affected by factors that were readily identifiable and amenable to reliable forecasting.

The advances by commercial finance companies against motion picture security generally run about 50 to 60% of the total budget, when they are the providers of “first money.”

HAS CHANGED DRAMATICALLY

The motion picture business of today has changed dramatically. The foreign market for films—usually accounting for 40% of the gross proceeds of a film—dried up, owing to currency difficulties experienced by much of the world during the period of acute “dollar shortage.” By far the most important reason for the change was that the advent of television dealt a blow to the motion picture industry. Not only have the proceeds that films yield been reduced; they have also become far less predictable. Consequently, the likelihood of error in evaluating collateral in the form of a motion picture has greatly increased.

In the face of this greater uncertainty concerning the value of any single motion picture as security, grantors of motion picture loans have developed a further technique that increases the value of motion picture collateral. Through the technique of “cross-collateralization,” loans are “pooled” against several (generally four or five) pictures. Good returns from one picture thus can offset a poor earner, and the value of the entire collateral is not impaired.

With the sharp decline in the motion picture business in recent years, the total volume of motion picture financing dropped rather markedly. This decline has been partially offset by a large increase in loans secured by television programs on film. Although the television business is still young, it appears that program material has a readily predictable value, and therefore is satisfactory collateral for loans. In some ways it is significantly better as collateral than motion pictures were, because its value is not so strongly affected by consumer response.

If we view the motion picture and television program loan in a broad frame, we see that it has contributed to the growth of a substantial number of independently produced films.

This type of loan illustrates the essential meaning of value in collateral. It consists essentially of forecastable sales proceeds. The lender must not simply know that his collateral has value; he must also know, within fairly narrow limits what that value is—in practice. For the analyst examining such corporations, in an effort to find shares of merit, the extent of backing of loans becomes of prime importance.

* * *

1889 . . . March 6 . . . Decline of stocks on the Paris Bourse, especially Comptoir d'escompte shares.

March . . . first week fall in the price of copper (London).

June 26 . . . “Dissension amongst the American ‘Granger’ lines.”

Harbison-Walker Refractories Company

Pittsburgh Pennsylvania

January 19, 1955

Board of Directors has declared for quarter ending March 31, 1955 DIVIDEND of ONE and ONE-HALF (1½%) PER CENT or \$1.50 per share on PREFERRED STOCK, payable April 20, 1955 to shareholders of record April 6, 1955.

Also declared a DIVIDEND of FIFTY CENTS per share on COMMON STOCK, payable March 1, 1955 to shareholders of record February 10, 1955.

Also declared further a 3% COMMON STOCK DIVIDEND payable April 28, 1955 at the rate of 3 common shares for each 100 common shares held March 24, 1955. In lieu of fractional shares, cash was directed to be paid at the rate of any applicable fraction times \$87, the approximate market value of each common share.

G. F. CRONMILLER, JR.
Vice President and Secretary

PUGET SOUND POWER & LIGHT COMPANY

★

Common Stock Dividend
No. 46

The Board of Directors has declared a dividend of 43c per share on Common Stock of the Puget Sound Power & Light Company, payable February 15, 1955, to stockholders of record at the close of business January 28, 1955.

FRANK McLAUGHLIN
President

January 18, 1955.

Dividend Notice

JEFFERSON LAKE SULPHUR COMPANY

The Board of Directors at a meeting on January 17, 1955, declared the regular semi-annual dividend of 85c per share on the Preferred shares and the regular quarterly dividend of 40c per share on the Common shares (Dividend No. 47), both payable March 10, 1955, to shareholders of record February 21, 1955.

CHAS. J. FERRY
Vice-President &
Secretary

OUTBOARD, MARINE & MANUFACTURING COMPANY

Dividend Notice

A cash dividend of twenty-five cents (25c) per share on the Common Stock of the Company has been declared by the Board of Directors, payable February 25, 1955 to stockholders of record February 2, 1955.

H. M. FISHER, Secretary
January 21, 1955.

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Airplane view of main plant units, Houston, Texas

Steel, Too, Grows Big in the Southwest

The Southwest is growing, and Armco is growing with it.

Located strategically to serve this growing market with its special steel products is Armco's Sheffield Steel Division. In the works and offices in Kansas City, Mo.; Houston, Texas; and Sand Springs, Oklahoma, nearly 8000 men and women are working today to meet the demand for these products.

Besides providing steel for the Southwest's farms, factories, railroads and highways, Armco also serves the flourishing oil and natural gas industries. Special products include large-diameter welded steel pipe for oil and gas transmission lines, made by the A. O. Smith Corporation of Texas, owned jointly by Armco and A. O. Smith Corporation.

Although the Southwest provides a big and growing market for Armco, the location of the Houston Works on the deep water of the Ship Canal makes it advantageous to ship products to Coast ports and to all parts of the world.

The location of Armco's plants, like the diversification of its products, is part of the strength of the company now and in the years to come.

ARMCO STEEL CORPORATION
MIDDLETOWN, OHIO



Sheffield Steel • Armco Design & Metal Products, Inc. • The Armco International Corporation

Labor Unions—a Challenge to Wall Street

JESSE ROBISON

INVESTMENT MANAGERS, brokers, and banks have not overlooked the possibility of union funds entering the securities market. And, as their funds pile up, outside pressures on union leaders to change their policy increase, but with little success.

Most of the union managements are standing firmly by their conservative concentration in Government bonds. A few are shifting, slowly and cautiously, but there is no evidence yet that the rate of conversion to an equity-oriented policy will take on pace.

Perhaps one reason why the logical approach of the analyst and professional investment manager has not met with more success is that there appears to be little understanding outside of labor circles of the reasons for present union investment policy. There are reasons, and, from a union manager's viewpoint, very good ones.

Why have unions generally not followed the lead of other institutions, such as universities and charitable foundations, or even the life insurance companies and savings banks? An awareness of labor organization problems might yield a quicker solution to the impasse—and perhaps lead to a better relationship between investment people and union leaders.

SUFFERED IN 1929–33 COLLAPSE

The unions suffered in the collapse of 1929–33. Infected with the virus of the '20's, many of them went after "bankers" profits. Of 36 union banks precrash, only 4 survived. Bonds, mortgages, and stocks likewise proved unhappy receptacles for funds. The stock market collapse occurred just as unemployment rocketed, membership dues declined, and the unions needed their full resources.

Leaders of the unions are older men, particularly those in the wealthier AFL internationals. They remember these bad days and fear a repetition. Many of them were instrumental in imposing on their managements the very restrictions that now bind their own investment muscles, and they are not particularly unhappy with the situation. Since it relieves them of exercising any particular judgment in the selection of investments, they cannot possibly be wrong to their members. Who would blame them if Treasuries bought at par drop to the low 90's, or if the price level rises so that the real value of their reserves deteriorates? On the other hand, they may be accused of speculating if a carefully selected list of blue-chip stocks recedes only a few per cent from cost. Moreover, they have neither the time nor the experience to study security values, to select appropriate shares, and to maintain the continuous supervision that the professional knows is essential to successful diversified investing.

The internationals have been growing steadily in financial strength in recent years. The big gain in net worth occurred during World War II. Then collective bargaining really took hold under the terms of the Wagner Act, union

membership and dues income mounted rapidly, and the virtual absence of strikes eliminated a major expense item. Since 1940, total union membership has more than doubled, from 8 million to between 16 and 17 million. In 1940 less than 15% of the labor force was organized, compared with about 27% now.

In the four full years of the war, 1942–45, strikes cost industry and labor an average of 16.1 million man-days of idleness per year. In the following four years, including strife-ridden 1946, the annual average of strike-caused idleness jumped to 58.9 million man-days. In the last four years, the annual average dropped to 37.5 million man-days, and 1954 will probably show only 24 million man-days on strike. (These figures do not include secondary work stoppages due to material or service shortages.) More organization, more employment, steadier employment translate into increasing dues income accruing to the unions.

Taft-Hartley, the trend toward arbitration of wage demands, and improved mechanisms within unions for settling jurisdictional disputes, could lead to a continuing improvement in the time-lost-through-strikes picture, subject to occasional big flare-ups. The significance to union treasuries is clear. General funds, special funds, and reserves will continue to grow, unless there is a deep recession in business. Under fair conditions, the general membership of the unions will continue to be satisfied with the handling of their organizations' finances.

The bricklayers, for example, have little reason to be discontented with the financial progress of their union. Net worth of the International Union of Bricklayers, Masons, and Plasterers has increased in ten years from less than \$10 million to more than \$17 million in 1954. The bulk of its investments are in U. S. and Canadian Governments and municipals(!).

GOVERNMENTS ONLY POLICY

It is not a persuasive argument with most union officials that, by following a Governments only policy, they are losing a golden opportunity to increase income and profits. They will tell you, "The unions are not in business to make money," and they are right. Funds they collect and hold are a trust; their first essential is to conserve them. It is better, for them, to get 2 to 2½% on Governments than to seek higher income, with the risk involved in corporate bonds and stocks. The outstanding exponent of this policy is, of course, the United Mine Workers Welfare and Retirement Fund. Of \$93,565,000 in total assets on June 30, 1954, over \$60 million was in short and long Governments, \$27.3 million was in checking and savings accounts, and \$6 million was represented by loans to UMW hospitals. UMW earns about 2.4% on its investments, the Bricklayers report 2.6%, but the Autoworkers showed only 1.23% return in their last fiscal year.

Amalgamated and ILGWU are strong and influential advocates of this policy. Amalgamated urges smaller unions to deposit their funds in its bank, and will pay 2%, if pressed. UMW also solicits time deposits from the Mineworkers' locals for the Lewis-controlled bank in Washington, and IBEW pays locals 2% on loans to its pension fund. But changes occurred, and some of this fund entered the mortgage market.

MORTGAGES

Electrical Workers AFL (IBEW) too has gone strongly into mortgages. Of its general funds, only 18% is so invested, but 68% of the pension benefit fund is in mortgages. The latter also is moving with some vigor into stocks, the proportion having risen from 12.6% in 1953 to 21.2% in 1954. IBEW is advised on securities by a bank in Washington. It is understood to have under its control up to twice the \$38 million reported in its latest balance sheet.

Machinists is another big international which has concluded, within the past year, that a modest position in equities may provide a sound hedge against long-term inflation, which most union leaders accept as inevitable. Of its \$10 million assets, over 15% has gone into stocks, but these are confined to issues approved by the D. C. Probate Court for investment by estates and trusts. The adviser here is the local office of a national brokerage concern.

Some unions that have decided on a stock position have solved the problem of choice by buying into a mutual fund. This is more characteristic of small internationals and locals. One West Coast local invests \$17,000 every month in a large balanced fund. Small pension plans are doing the same thing. On the other hand, a large Washington international recently took into its own employ the broker whose advice it had been following.

CONFLICT WITH UNION POLICIES

One of the problems that an equity program poses to a union official is the possibility of conflict with labor union policies. If an international invests in companies with which it bargains, will its stockholder position undermine its primary concern with wage rates and working conditions? Some union executives are fearful that it might, or that they might be criticized unfairly on that score by the membership if they don't make as good a deal as some members want.

There arises the question of a union participating as a stockholder in management decisions. This is difficult to answer. Should the union cast a vote in proxy contests? Should it cast a vote on *any* question presented to stockholders? The traditional union policy is to avoid any responsibility for management decisions. Some unions that hold stock appear at stockholders' meetings and present their views on labor-related issues, but refrain from voting. On the other hand, some union officials listen kindly to the idea that their holdings may become large enough to justify representation on the board of directors, where they can support the demands of labor in any conflict with management.

One of the problems that a few union leaders have faced is the effect that any change in investment policy by the

international will have on the constituent districts, chapters, and locals. How much their aggregates are is anyone's guess, with some guesses running to \$3 billion or more, without benefit of pension and welfare funds.

If one speaks to an international official about the finances of the locals, it becomes apparent that this is a sensitive situation. Where treasury funds are concerned, every unit is autonomous and intends to remain so. Any effort to impose policy from above is likely to elicit curt rejection. Suggestion—yes; direction—no!

However, it is a hard fact that, if the international officials who have come up through the ranks of labor by virtue of their organizing ability and leadership capacity generally are not trained or experienced at the business of investing, local officials who often spend their days in the shops and their nights on union business are even less sophisticated about investments and have less time to give to fund management.

At least one labor leader believes that, by confining its investments to Governments, the international sets a standard for its locals. But once it buys stocks, even though it may be guided by expert advisers, it releases the locals, which, through innocence of investment techniques, may not use the same caution and judgment shown by their international leaders.

REAL ESTATE

One strong investment trend can be noted among the internationals, particularly in Washington. They are turning enthusiastically to real estate. Like the average thrifty American, unions like to own their own homes. The Teamsters just completed a handsome marble-faced structure into which they have moved from rented space in the building the Letter Carriers recently built. The latter got some friendly help from the Bricklayers, who hold the mortgage. The Bricklayers, Mineworkers (AFL), Government Employees (AFGE), and others already own their own buildings, and in the past year there has been a spate of announcements of home buildings to be erected by CIO, AFL, IUE-CIO, Machinists, and others. There may soon be almost as many buildings in Washington owned by unions as by the Government.

Besides, the management of union treasury funds, there are problems associated with the rapidly growing pension and welfare funds. Where the obligations are not insured, control of the funds has been left largely to the company or to industry managements, although there are some notable exceptions. The most interesting developments in this field are the multiemployer, single-union plan, where the union necessarily takes a strong position, and the variable annuity type of retirement program, which gears the pension payout to the fluctuating value of an accumulating equity fund.

The unions have come a long way from the days of the cash box. Continued accumulation of funds in the hands of unions and their institutions steadily intensifies the serious problem of investment. There is clear evidence of their slow trend from the traditional reliance on Government bonds and in the direction of equities. The labor unions therefore present a great challenge to banks, investment advisers, individual economists and security ana-

lysts, commission brokerage houses and mutual fund managers, who can logically be expected to help them steer a safe course in waters strange to them. But, if the analyst or investment manager hopes to accelerate and share in this trend, he must visualize the problems as they appear to union leaders. Labor leaders are not particularly fond of Wall Streeters as a class. Consequently, the investment expert cannot approach this group with only the statistics, charts, and arguments that would persuade other institu-

tions and individual investors. He must consider and understand the union officials' responsibility to the membership, the many purposes for which funds are accumulated, and the basic function and primary interests of labor unions. With a sympathetic and intelligent understanding of this new and different client, special techniques and mechanisms for investment may be developed and accepted—with the possibility of a profound influence on the investment market and the economy.



Facts and Figures

FROM THE 1954

ANNUAL REPORT

HIGHLIGHTS

- Sales of Continental Motors Corporation and consolidated subsidiaries in the fiscal year ending October 31, 1954 totalled \$182,061,693, as compared with \$298,438,605 the previous year. Earnings declined relatively less, amounting to \$4,542,748 or \$1.38 per share, as compared with \$6,023,812 or \$1.83 per share in 1953.
- Dividend payments made to Continental Motors stockholders during the fiscal year 1954 totalled 80 cents a share. They were made in four payments of 20 cents each, as in the previous year, and resulted in total dividend disbursement of \$2,640,000 in 1954.
- Net working capital at the end of 1954 was the second-highest in the company's history, having declined by \$581,196 from the all-time peak of one year earlier.
- Reduction in inventories amounted to \$12,201,667, the greatest reduction since 1945, and bank loans were reduced by \$3,300,000.
- Capital expenditures for plant additions, tooling, machinery and equipment, in the fiscal year 1954, were \$5,181,563 as compared with \$3,658,780 in 1953.
- Stockholders' investment increased from \$42,254,564 to a new high of \$44,157,312. The latter represents a

value of \$13.38 a share, an increase from \$12.80 a share a year ago.

- Current assets at the close of 1954 were \$67,362,396, and current liabilities \$35,667,076, the ratio between assets and liabilities being 1.9 to 1. Net working capital, \$31,695,320, was down only slightly from the all-time high of 1953.

- The company maintained its strong position as a source of aircraft power plants, and brought out three new aircraft models designed to continue and extend its leadership.

- Sale of engines and power units for irrigation use looms as a factor of growing importance in the company's outlook for the immediate future.

- Introduction of V-8 engines, in both gasoline and Diesel versions, was an important forward step in 1954. Important additions also were made to the Continental family of agricultural, transportation and industrial in-line Diesels.

- The gas turbine program on which Continental Aviation and Engineering Corporation, unconsolidated subsidiary of Continental Motors, has been working for the past three years, under non-exclusive sub-license from its parent company, made important progress in 1954. C.A.E. enters 1955 with a substantial backlog of orders. Two turbine models are in production.

STATISTICS

Fiscal Years Ended Oct. 31	1954	1953	1952	1951	1950
Engine output (horsepower)	14,659,577	23,073,000	21,390,000	16,950,000	14,711,000
Net sales	\$182,061,693	\$298,438,605	\$264,219,009	\$166,877,855	\$96,404,468
Net earnings	4,542,748	6,023,812	6,126,021	4,469,863	3,611,245
Net earnings per common share	\$1.38	\$1.83	\$1.85	\$1.35	\$1.09
Dividends per share	\$0.80	\$0.80	\$0.60	\$0.45	\$0.30
Current assets	\$67,362,396	\$104,895,088	\$104,074,697	\$77,194,737	\$44,432,296
Current liabilities	35,667,076	72,618,572	76,492,367	51,185,864	19,376,103
Net working capital	31,695,320	32,276,516	29,382,330	26,008,873	25,056,193
Ratio of current assets to current liabilities	1.9 to 1	1.4 to 1	1.4 to 1	1.5 to 1	2.3 to 1
Long-term debt	\$3,320,000	\$3,600,000	\$3,880,000	\$4,160,000	\$4,500,000
Property, plants & equipment (net)	16,654,419	14,085,545	13,573,156	12,533,919	11,826,934
Stockholders' equity	44,157,312	42,254,564	38,870,752	34,724,731	31,740,668
Book value per common share	\$13.38	\$12.80	\$11.78	\$10.52	\$9.62

Continental Motors Corporation
MUSKEGON, MICHIGAN

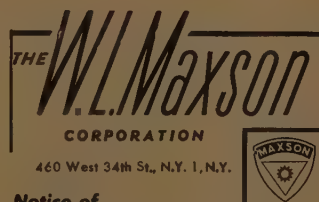


STAUFFER CHEMICAL COMPANY

DIVIDEND NOTICE

The Board of Directors has declared a dividend of 32½¢ per share on the common stock payable March 1, 1955 to stockholders of record at the close of business February 15, 1955

Christian deDampierre
Treasurer



Notice of

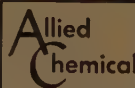
QUARTERLY CASH DIVIDEND

15¢ a share

Payable March 1, 1955

Record date, February 17, 1955

January 27, 1955



Quarterly dividend No. 136 of Seventy-five Cents (\$.75) per share has been declared on the Common Stock of Allied Chemical & Dye Corporation, payable March 10, 1955 to stockholders of record at the close of business February 11, 1955.

W. C. KING, Secretary

January 25, 1955.

Book Reviews

REGULARIZATION OF BUSINESS INVESTMENT

A Conference of the Universities —
National Bureau Committee for
Economic Research
Princeton University Press, 513 pp, \$8

Twenty-six leading economists present ideas concerning the regularization of business and the effects it can have on preventing a depression. Each industry and segment of the business organization is separately examined by an expert in the field. Among the most significant essays for analysts are those by Walter Hoadley, Richard Gonzalez, Moses Abramovitz, K. T. Healy, Neil Jacoby, and Albert Hart, although each and every one should be put on the must reading list of security experts who either need foundation or enjoy a work well done.

Should private enterprise avoid consideration of necessary regularization, Government will be forced to encroach on the functioning of business. Regularization may merely reduce the amplitude of swings, or it can achieve greater regularity of the economy. Uncertainty, it is said is a major cause of cyclical fluctuations. "Confidence in the future," wrote Walter Hoadley, "does not require continued boom conditions, but it does imply some fairly definite indication that any downturn will be followed by a revival within a reasonably short period of time."

Public utility plant expenditures must be channeled toward construction, since this is the best way to keep the Government from doing just that, and this might well end in the socialization of the industry.

The size of inventories play an important part in keeping economic equilibrium. Inventory policy may stabilize or depress the general economy. The speculative motive may cause overbuying during slack periods, and changes brought about by inventory shifts could easily alter a trend. Accumulations of goods have unlike impacts at different periods. Credit controls may be a way of altering buying, as can also taxation.

An encouraging note is that most managements recognize the importance of well-trained research staffs.

For the proper size of inventory for most occasions can be facilitated by intelligent research. This may also consider the appraisal of the impact of altered interest rates, changing prices, and future expectations. Research is actually a new industry with a long training period for any effective staff. This initial outlay makes the size of a research department rather more stable than employment in other fields. It introduces (Yale Bozen in chapter on The Role of Technical Change) "a stable component in total investment."

Neil Jacoby finds that "financial policies of existing institutions affect the regularity of business investment." But no single measure, taken by one agency, is adequate in itself to build regularization. A number of alterations in the attitudes, policies, and decisions of institutions supplying funds to businesses becomes necessary.

The study of Government measures brings much to the attention of the reader which will be invaluable for future work. Donald Woodward in his appraisal concludes that, if greater regularization is to be approached, "both business and Government must contribute."

These studies will be welcomed by all students, and by every person desiring a thoughtful presentation of the needs not only of business but of the American economic system as well.

BUSINESS POLICY

Charles L. Jamison
Prentice-Hall, 580 pp, \$8.50

This is a study of the types of decisions made by top management so that a more comprehensive understanding of policies may be had by analysts. Valuation of both the merit of management and the worth of inventories must affect the price of shares. For this reason analysts will find company investigation illuminated by facts presented in "Business Policy."

Rising prices increase the replacement rate. For this reason the system of depreciation assumes large proportions. Although a small business may do well without a system of budgeting,

In this department are summarized books, articles, and documents of outstanding economic or financial interest.

Helen Slade is the author of the book reviews. She will cooperate with members of the Society desiring source material for JOURNAL articles and for research projects and studies.

it becomes a necessary procedure in measuring the excellence of management of larger corporations. Not only capital but the value of inventories also feels the impact of inflation and industries' place in the business cycle. This in turn affects dividends. Market research does much to clarify sales forecasts and possible changes in the price of money.

The present and expected size of a business determines the amount of required capital. The extent of borrowing should bring a picture of whether or not the company is being well run. This, coupled with the cost of those funds and the size of the inventory at a certain point of the business cycle, aids in reaching decisions. A certain business policy is usually identical for all companies, although the degree and speed of expansion differs greatly. Some corporations can stand an accelerated growth while others cannot.

Close to half a billion dollars is spent annually in the United States for research. This fairly new turn in corporate thinking should be carefully considered. This book makes the reasons and end of research clear; it also shows how to evaluate the significance of information ascertained by a competent staff.

It must be remembered that the foundation for business planning lies in understanding the goal for each corporation. A good management recognizes needs. To understand how and why directors and officers make decisions requires a comprehension of why certain conclusions are better than others. A careful reading of this study, especially by the younger analysts, will save considerable time and bring sought-for tools for proper examination of procedure.

RENEWING OUR CITIES

Miles L. Colean

Twentieth Century Fund, 181 pp, \$2

It has become necessary for us to shape our cities to modern needs and reach the decision as to what kind of cities we want. The cycle of growth brings with it replacements which stimulate building trades. As traffic increases the requirements for parking spaces, terminal facilities and thruway systems increase.

For investors, the low rate of return on most buildings eliminates a large portion of venture capital. After World War II, life insurance companies began investing in housing property. Then the Mutual Savings Banks took up the idea. This was followed by a group of New York City banks undertaking two projects, but by 1950 institutional interest in this kind of an investment was waning.

Real estate investments of new construction need to have sizable outlays "well in advance of income." Another factor is the level of local taxes, which at times act as deterrents to investors, since taxes are often the most important item of operating expenses. Ultimately most of the investing in housing will have to be done with private funds. The legitimate investor must be regarded as a contributor to the good of the community, "not as an exploiter to be suspiciously watched or a fat cow to be milked."

CAPITAL AND OUTPUT, TRENDS IN MINING INDUSTRIES, 1870-1948

Israel Borenstein

National Bureau of Economic Research, 83 pp, \$1

From 1880 to the 1910-1919 decade, production of minerals advanced at a higher pace than that of total goods and services. Yet this trend has reversed itself since World War II. This was in part due to an increase in imports. Differences in mining industries' rates of growth, coupled with consistent differentials "in their capital-product ratios," brought about changes in the capital-product ratios for the entire industry. The petroleum industry uses more capital per unit of product than any other mining industry excepting the precious metals, and

more than any major manufacturing industries. The value of mining output as a whole is only about 5% of the amount invested in manufacturing. In appraising this ratio for mining, it is wise to exclude the petroleum setup. The purpose of the study was to discover what information might be derived from past records on the future demand for capital in mining industries.

U.S. BUSINESS PERFORMANCES ABROAD

National Planning Association

An interesting set of pamphlets are the case histories of Business Studies Abroad done by the National Planning Association. These deal largely with the tremendous growth and economic missionary work accomplished by the W. R. Grace & Company. To all interested in South American trade and investment opportunities these studies should be of value.

INSTALLMENT SALES FINANCING: ITS SERVICES FOR THE DEALER

Clyde William Phelps

Commercial Credit Company, 99 pp

This monograph concerns itself principally with the financing of automobiles. About one half of all our installment financing is the result of automobile purchases. And one third of all retail sales are made on credit. For 1951, installment sales totaled \$17.7 billion. Finance companies of all kinds have increased, making this a most competitive service.

Not only the user of automobiles but also the dealer needs a financing institution. The car dealer usually needs sufficient financing to permit him to stock a 30-to-45-day supply. Variations in rate are found, as well as variations of service of the financing company. A large part of dealers' paper is bought by institutions of all kinds. The dealer discounts his retail paper at a very low rate. These credit plans have increased to a point of becoming an important item of consideration, not only in estimating sales, but also in understanding where and how a recession might upset buying power of the Nation.

* * *

1889 . . . September 18 . . . Floods in Japan.

End of cotton "corner."

FINANCIAL INDEPENDENCE

Robert D. Merritt

Simon & Schuster, 310 pp, \$3.95

Mr. Merritt points a way to undertaking "wise and profitable" employment of savings. He advises a businesslike approach to investing and requests the buyer of shares to be value-minded. In order to facilitate reaching profitable decisions, data on how to appraise both corporations and economic facts are tendered. Several methods of evaluation are discussed.

Patience in reaching one's goal is urged, coupled with constant weighing of future possibilities. The chapter on how to read an annual report should be of value to younger investors, for it is truly informative. Moreover, several sources of obtaining information are suggested. This is a good book for the novice investor, as well as for some of more maturity.

NO MAJOR DEPRESSION IN OUR LIFETIME

A. W. Zelomek

International Statistical Bureau, 72 pp

Since 1929 Americans everywhere have demanded a thorough economic research to find the cause of depressions. Some answers show that depressions do not fall with equal severity on all parts of the country, nor with like force on each industry. That not only situations within the United States but also world conditions play a part in our national production and business outlook. Stabilizers as such are defined and weighed. Each is judged in the light of past performances. Business and Government experts of today have learned much to assist them in recognizing warnings, and have learned enough to avoid a major depression, but not minor recessions.

There is still a large field to explore. One may be hopeful of the results of continued research and feel assured that the road of business and securities of the American economy promises to be leveled off, its ups and downs smoothed. Recessions and adjustments may well come and go—but no perturbing depression seems probable during our span of life.

Luncheon Forum Talks

NEW YORK SOCIETY OF SECURITY ANALYSTS

NOVEMBER 1, 1954-JANUARY 31, 1955

<i>Date</i>	<i>Speaker</i>	<i>Topic</i>
Nov 1	Joseph A. Martino Chairman and president	National Lead Co.
Nov 3	Harry A. Bullis Chairman of board	General Mills, Inc.
Nov 4	M. C. Eaton President of company	Norwich Pharmacal Co.
Nov 5	Robert D. Yeomans Commissioner	Washington Utilities Commission
Nov 8	Walter H. Hochschild President of company	American Metal Co.
Nov 9	Glenn B. Miller Vice-president of corporation	Allied Chemical & Dye Corp.
Nov 10	D. J. Russell President of company	Southern Pacific Co.
Nov 11	R. C. Ingersoll President of corporation	Borg-Warner Corp.
Nov 12	Robert H. Smith President of railway	Norfolk & Western Railway Co.
Nov 15	Nathan Cummings Chairman of board	Consolidated Foods Corp.
Nov 16	Earle O. Johnson President of association	Air Transport Association
Nov 17	Thomas W. Delzell Chairman of company	Portland General Electric Co.
Nov 18	T. M. Martin President of company	Lion Oil Co.
Nov 19	Thomas S. Holden Vice-chairman, F. W. Dodge Corp.	Building Outlook
Nov 22	E. A. Darr President of company	R. J. Reynolds Tobacco Co.
Nov 23	W. J. Braunschweiger Executive vice-president	Bank of America
Nov 24	Tom P. Walker President of corporation	Transcontinental Gas Pipe Line Corp.
Nov 26	J. E. Tobey President of company	Appalachian Coals, Inc.
Nov 29	J. P. Spang Jr. President of company	Gillette Co.
Dec 1	W. T. Stevenson President of corporation	Texas Gas Transmission Corp.
Dec 2	John D. A. Morrow President of company	Joy Manufacturing Co.
Dec 3	Anthony F. Arpaia Interstate Commerce Commissioner	Work of the Interstate Commerce Commission
Dec 6	Henderson Supplee Jr. President of company	Atlantic Refining Co.
Dec 8	C. E. Kohlhepp President of corporation	Wisconsin Public Service Corp.
Dec 9	Joseph A. Grazier President of company	American Radiator and Standard Sanitary Co.
Dec 10	William R. Coe Financial vice-president and treasurer	Virginian Railway Co.
Dec 13	Charles E. Beard President of company	Braniff Airways, Inc.
Dec 14	H. F. Krimendahl President of company	Stokley-Van Camp, Inc.
Dec 16	L. D. Campbell Vice-chairman of company	Halliburton Oil Well Cementing
	W. D. Owsley Vice-president of company	
Dec 17	Arthur K. Atkinson President of railroad	Wabash R.R. Co.

<i>Date</i>	<i>Speaker</i>	<i>Topic</i>
Dec 20	Harry P. Wurman President of company	Bayuk Cigars Inc.
Dec 21	T. L. Daniels President of company	Archer-Daniels-Midland Co.
Dec 22	Alfred Steele President of company	Pepsi-Cola Co.
Dec 28	John L. McCaffrey President of company	International Harvester Co.
Dec 29	Jerome K. Kuykendall Chairman of commission	Federal Power Commission
Jan 3	W. C. MacFarlane President of company	Minneapolis-Moline Co.
Jan 4	General Leslie R. Groves Vice-president, Remington Rand, Inc.	Atomic Energy in Industry
Jan 5	W. E. Mueller President of company	Colorado Interstate Gas Co.
Jan 6	Philip L. Merritt Manager, uranium division, E. J. Longyear & Co.	Economics of Uranium Mining
Jan 7	Delancey C. Smith Attorney, protective committee for Missouri Pacific 5¼'s	Missouri Pacific Reorganization
Jan 10	J. P. Falvey President of company	Electric Auto-Lite Co.
Jan 12	Dean Mitchell President of company	Northern Indiana Public Service Co.
Jan 13	J. H. Dunn President of corporation	Shamrock Oil & Gas Corp.
Jan 14	W. Arthur Grotz President of railway	Western Maryland Railway Co.
Jan 17	J. C. Vander Pyl President of company	American Machine & Metals, Inc.
Jan 18	K. F. MacLellan President of company	United Biscuit Co. of America
Jan 19	Roy Little Chairman of company	Textron, Inc.
Jan 20	George S. Patterson President of company	Buckeye Pipe Line Co.
Jan 21	S. W. Fairweather Vice-president, research and development	Canadian National Railways
Jan 24	A. King McCord President of corporation	Oliver Corp.
Jan 25	J. R. MacDonald President of company	General Cable Co.
Jan 26	J. W. McAfee President of company	Union Electric Co.
Jan 27	William A. Hanway Secretary of company	International Paper Co.
Jan 28	Donald V. Fraser President of railroad	Missouri-Kansas-Texas Railroad Co.
Jan 31	R. L. Murray President of company	Hooker Electro-Chemical Co.

D A C Luncheons

Nov 30	Leroy A. Van Bomel Chairman of board	National Dairy Products Corp.
Dec 7	George W. Romney President of corporation	American Motors Corp.
Jan 20	John S. Osborne President of corporation	Central & South West Corp.

Special Luncheon

Jan 11	J. W. Franklin President of company	U. S. Lines on the S.S. <i>United States</i>
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Minneapolis Gas Co.	47
National Distillers Products Corp.	3, 53
Newport News Shipbuilding & Dry Dock Corp.	12
Oklahoma Gas & Electric Co.	104
Olin Mathieson Chemical Corp.	56
Outboard Marine & Manufacturing Co.	96
Pacific Gas & Electric Co.	17
Philco Corp.	34
Pittsburgh Coke & Chemical Co.	50
Pittsburgh Plate Glass Co.	64
Pittston Co.	90
Puget Sound Power & Light Co.	96
Pure Oil Co.	44
Radio Corp. of America	86
Republic Aviation Corp.	68
Republic Steel Corp.	28
Rome Cable Corp.	18
Ruberoid Co.	18
Safeway Stores	49
Salomon Bros. & Hutzler	4
Sinclair Oil Corp.	4th cover
Socony-Vacuum Oil Co.	54, 59
Southern California Edison Co.	49
Southern Natural Gas Co.	78
Standard Brands Inc.	89
Standard & Poors Corp.	53
Stauffer Chemical Co.	99
Sunray Oil Corp.	49
Texas Eastern Transmission Corp.	42
Texas Instruments, Inc.	59
Union Electric Co. of Missouri	24
United Corp.	18
United Fruit Co.	59
Unterberg-Towbin Co., C. E.	48
Utah Power & Light Co.	43
Ward Baking Co.	86
Wisconsin Electric Power Co.	75
Yale & Towne Manufacturing Co.	42

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GAS AND ELECTRIC
COMPANY

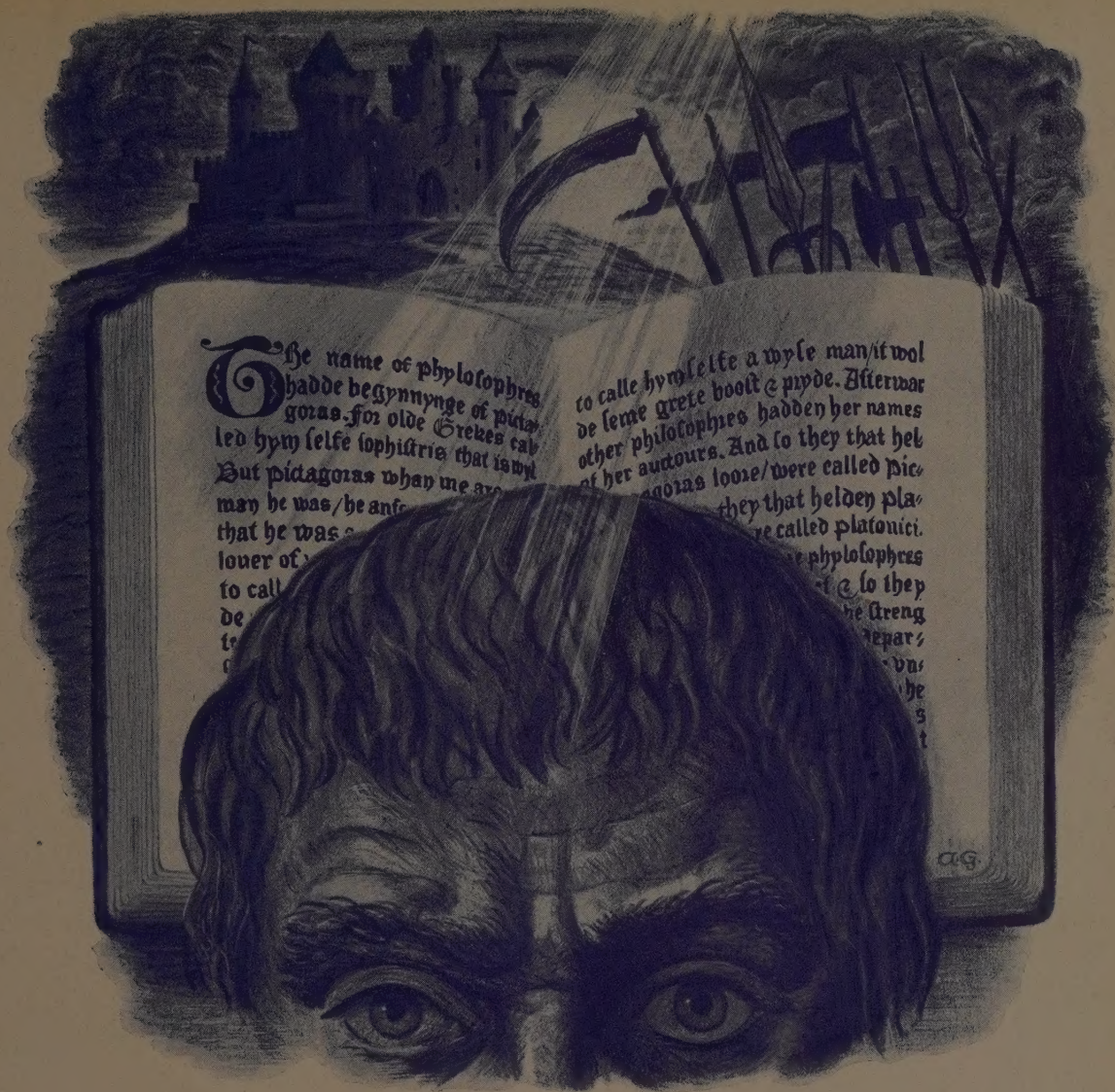
TECHNICAL OIL FIELD SERVICES LANE-WELLS COMPANY

Dividend No. 71

The Directors have declared a quarterly dividend of 40 cents per share on the common stock, payable March 13, 1955, to stockholders of record February 23, 1955.

WILLIAM A. MILLER
Secretary-Treasurer





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The Seas Beneath Us

In the far, far geologic past, a great inland sea once stretched from Newfoundland to the Gulf of Mexico. The Sinclair geologist in this picture is examining evidence of that fact—a familiar type of marine fossil. It is one of thousands of pieces of evidence that must be studied before the decision to drill or not to drill can be made.

Sinclair now has 11 million acres of hunting lands for oil—expanded from 5 million acres in 1949. This vast acreage checkerboards the same area from Canada to the Gulf that, ages and ages ago, lay submerged under water.

Of this land, about 350,000 acres now produce oil for Sinclair. It is the job of Sinclair scientists to find still more productive acres to meet the demands of the Company's ever-expanding markets.

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